SECTION 11: APPENDIX

Meeting Minutes
Kick Off Meeting
for
Bisbee-Douglas International Airport
Master Plan
GF Job No. 31268

Thursday, October 10, 1996
Cochise County Complex, Melody Lane
Bisbee, Arizona

Attendees:

Bayer Vella, Cochise County
Nick Pela, Pela & Assoc.
Jim Vlahovich, Cochise County
Walt Dolman, Cochise County
Linda Small, Cochise County
David Fabiano, Gannett Fleming

Item

1. Revised Payment Schedule
   OK by Linda Small, see attached.

2. Schedule
   Prefer meetings on Thursdays. Set date for first PAC and Public meetings. See revised schedule, attached.

3. Data Collection
   Memo by Ron Schreier on 10/1/96 requesting information. With the exception of item #7, aerial photo, and item #10, historical records of improvements including grants etc., all other information was provided. See memo attached.

4. GIS Coordination/CADD Standards
   County has no set CADD Standards. To incorporate CADD information with GIS System, County prefers files in the ARCINFO format. Current resolution used is 1:24000.
   County uses State Plane, East Zone, NAD 1927 for coordinates. FAA will require NAD 1983. Consultants can work with both and convert between them.

5. WLB's Pavement Preservation Project
   This is a separate Consultant Contract. No other information was given.

6. Survey Control at Airport
   There is no good survey control at airport. The boundary is tied to a section corner, but the improvements are not tied to the boundary. No good information was available addressing this problem. FAA coordinates for the ends of the runways will be used in lieu of any better information.

7. Buildings Listed in RFP and Addressed by Proposal

There are four buildings that are part of the airport that were not included in the RFP. The County wants these buildings included in the structural assessment and in the Master Plan. Consultant will advise the County of any Change in Scope these additional buildings will create.

8. Miscellaneous Items.

Consultant would like any additional fuel use records that might be available. County wants Master Plan to address a FBO. FBO would improve operations.

BISBEE-DOUGLAS INTERNATIONAL AIRPORT

MASTER PLAN
SCHEDULE

OCTOBER 10, 1996

MEETING	DATE
Kick-Off Meeting	2:00 pm Thursday, October 10, 1996 Cochise County Complex, Bisbee
PAC Meeting No. 1	1:30 pm Thursday, November 21, 1996 Cochise County Complex, Bisbee
Public Meeting No. 1	6:30 pm Thursday, November 21, 1996 BDI International Airport, Douglas
PAC Meeting No. 2	Thursday, January 23, 1997 BDI International Airport, Douglas
PAC Meeting No. 3	Thursday, March 20, 1997 BDI International Airport, Douglas
Public Meeting No. 2	Thursday, March 20, 1997 BDI International Airport, Douglas
PAC Meeting No. 4	Thursday, May 15, 1997 BDI International Airport, Douglas
Public Meeting No. 3	Thursday, May 15, 1997 BDI International Airport, Douglas
PAC Meeting No. 5	Thursday, June 26, 1997 BDI International Airport, Douglas
Public Meeting No. 4	Thursday, June 26, 1997 BDI International Airport, Douglas

file = i:\jobs\3268\admin\mp-sched.o10

Daryl B. Elam

Rt.1, Box 190, 7080 N. BDI Blvd, Douglas, AZ. 85697

(520) 805-9030

November 15, 1996

Mr. Ronald D. Schreier
Gannett Fleming, Inc.
Suite 130
3001 E. Camelback Rd.
Phoenix, AZ. 85016-8817

Re. Bisbee-Douglas International Airport Master Plan, Job # 31268

Dear Mr. Schreier,

I received and reviewed your PAC Workbook for the BDI Airport Master Plan and I have several corrections and comments to offer.

1.) Correction: Page 1-6, paragraph 3: "There are currently 16 aircraft based at BDI." does not account for the 6 additional aircraft in my hangar (#1). These are all homebuilts as follows:

Viper	N18VX	homebuilt
Gazelle	N6GZ	homebuilt
Pitts S1S	N602JB	homebuilt
LaMouette	n/a	ultralight
Challenger-I	n/a	ultralight
Sprint-II	n/a	homebuilt (under construction)

That means that there are 37.5% more airplanes at BDI than your figures represented.

2.) Comment: Page 2-2, paragraph 5: "Runways 3L-21R and 12-30... not usable for aircraft...' I understand that there is not as substantial a base under 3-21 (for heavy aircraft) but I can assure you that 3-21 is a much smoother surface than 8-26. There are no potholes and even though the surface is somewhat loose granular (deteriorated bituminous) it should not be written off with further consideration for reactivation. This is especially true if prevailing winds are considered.

3.) Comment: Page 2-2, paragraph 6: "In 1992 a preservative seal coat was applied..." This was what we refer to as "chip-seal", gravel in a thin layer embedded in a tar-like material. The type of gravel used has fairly large aggregate size and has very sharp edges. This gravel was probably from a crusher which produces sharp edges from fracturing larger racks. It would have been much preferred to use a smaller particle size and of a type with rounded edges such as natural gravel. The large size and sharpness of the current coating causes EXTREME wear on aircraft tires. Several summers ago when there were "fire-bombers" (DC-4's, P2's) operating out of BDI on fires in the Chiracaua mountains they went through tires very fast and some operators refused to operate out of BDI due to the chip-seal's effect on tires!

8.) Comment: Page 2-12, paragraph 4: "Except for the prison site..." Before I came here to BDI the airport was zoned RU4. When I won the bid on hangar #1 and moved in here the county wanted me to purchase a special use permit. They said that working on airplanes in an RU4 zone was a "SPECIAL" use. I refused to go along with that since the county had represented the property as an "AIRPORT" and as a hangar in which commercial aviation operations could be done. A special use permit is subject to revocation on the whim of a county official or a single complaint from a neighbor. I wasn't going to invest in improvements to the building nor in establishing a business here with that kind of jeopardy. To me that was NOT a special use, but rather it was ordinary use. This prompted the zoning change to PD2. I applied to the county immediately after the zone change was official for a commercial use permit and paid the $300 fee. I was told it would take 3 to 6 weeks. I have not heard from that department since! The point of all of this is that the greatest impediment to the betterment of BDI is the people in the Cochise County government! The aviation community (and believe me I know most aviators in the area and they have been vocal as to there sentiments about BDI and other area airports) would be very enthused about a BDI resurrection but for their lack of faith in the county officials.

9.) Comment: Page 2-13, in general: BDI has 2 instrument approaches and, being relatively uncongested and without a control tower, this makes BDI attractive for instrument training flights. Most of the touch and go traffic, both VFR and IFR, are students. ATTC, based at Ryan field in Tucson (the pilot training school for Luftansa Airlines) uses BDI frequently for IFR training in Bonanzas and Barons. Also, numerous training flights come here from Douglas Municipal and Cochise College airports. Most of those operation do not result in fuel sales at BDI.

10.) Comment: Page 2-14, paragraph 1: "The present role of BDI..." Most of the jet traffic is corporate cargo. There are numerous "maquilladora" companies just across the border in Agua Prieta Mexico. These are set up to use the cheap labor and costs of doing business in Mexico. Since they are in an enterprise zone and with NAFTA is profitable for companies such as Allied Signal to have maquilladora plant there. So the jets come here to BDI to pick up small loads of cargo since we are only 13 miles from Agua Prieta by road.

11.) Comment: Page 2-14, in general: I don't agree with the logic of service areas being bounded by points equidistant to other airports. People don't much care how far it is but they are more concerned about how long it takes to get there. It would be more appropriate to bound the service areas according to points of equal driving time to suitable airports. For example there are locations where you may only be 20 miles from Bisbee Municipal airport in a straight line on a map, but due to the available roads it may be quicker to drive to BDI which may be 30 miles in a straight line on the map. It is also not sufficient to simply account for road mileage because the speed limits and traffic flows vary on the various roads. Obviously, if you live east of Sierra Vista it will slow you down to drive all the way through town to the SV airport versus driving further to BDI but at open highway speeds. The same is true for Bisbee Municipal. Also, your report does not mention population densities in the various service areas, the Mexican proximity, Agua Prieta has a population of over 75,000, the maquilladora companies nor the potential effects of NAFTA.

12.) Comment: Page 2-17, upper table: There are concerns and issues of many pilots, especially of transient aircraft, of flying close to the Mexican border. The border patrol operates Citation jets and helicopters along the nearby border. I have been approached within 200 feet twice by US

Border Patrol aircraft as have numerous visitors and associates of mine. Douglas Municipal, Cochise College and Bisbee Municipal are all within about 2 to 3 miles of the Mexican border. Douglas Municipal actually shares a common fence with the border. This means that taking off into the prevailing winds at Douglas Municipal forces you to illegally fly over Mexico! In general most pilots would rather stay away from the border if given a suitable alternative.

13.) Correction: Page 2-19, table of aircraft: As I pointed out above, there are 6 more aircraft which you neglected to account for!

14.) Comment: Page 2-19, bottom and all of page 2-20: "A two-day traffic..." I am here at BDI on average about 150 hours out of the 168 hours in a week. I can assure you that the flight operations per day is extremely irregular here. A two-day observation period not even close to being sufficient for statistical significance. Also there large seasonal fluctuations here due to winds and temperatures.

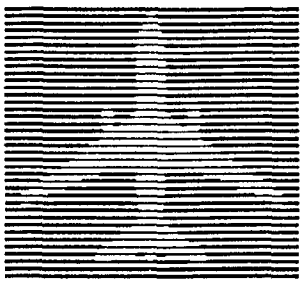
15.) Correction: Figure 2-2: I can assure that Hangar #1 IS occupied! Hangars #2 and #3 are not.

13.) Correction: Figure 2-5: The county lists these hangars as 11,688 square feet each. The diagram in 2-5 does not show the new offices which I have added to #1. The main hangar is about 120 feet wide and 80 feet deep. I have seen 6 or 7 single engine aircraft in these hangars on occasion without undo crowding. They were built for B-25's.

I hope the above comments and corrections are useful to you for your planning activities. Despite the county's best efforts to discourage me and violate my legal rights I am still here. Logically, legally and from the point of view of good business practices, I should have either sued them for non-performance and damages to my business and opportunities or just packed up and left here. I have lost several business ventures here because of non-performance by the county relating to the lease and permits. Please be very very careful in believing what some people at the county may tell you. I have decided to stick around for this Master Plan process and see what the county says it will do with it and if they ever intend to fulfill their legal obligations to me as they have promised many times but failed to do. Also, they have done Master Plans before and very little has come of them. I look forward to our PAC meeting on November 21st. See you there.

Sincerely,

Daryl Elam



NICHOLAS J. PELA and ASSOCIATES
Aviation Planners

In association with:

Gannett Fleming
ENGINEERS AND PLANNERS

Daryl B. Elam
Route 1, Box 190
7080 N. BDI Blvd.
Douglas, AZ 85697

November 18, 1996

RE: Bisbee-Douglas International Airport Master Plan
NJP #BDI.0001 CF #31268

Dear Mr. Elam:

Thank you for your letter dated November 15, 1996. It is encouraging to see that the members of the BDI PAC team are taking such serious interest in the master planning project. Each member has the same goal - to assure that the results and recommendations of the master plan will be in the very best interests of the BDI airport and its users. We appreciate your willingness to serve on the PAC, and your obvious interest in the outcome of the project. We know that your service means a substantial committment of your time, and we appreciate your assistance. The consultant's job is to respond to the PAC, providing our best professional expertise. The PAC knows their airport much better than we do and, throughout the project, we will rely on the PAC input as the basis of our work.

The following as a response to each of your comments. Copies of our correspondence will to be sent to the other PAC team members.

Comment 1: We used the County's records of based aircraft to arrive at our number of based aircraft. We are aware that there were several other aircraft present at the airport when we were doing our inventory work. The Arizona Department of Transportation (ADOT) records of based aircraft typically differ from those of the airport owner also. ADOT's records are based on the number of registered aircraft whose owners list BDI as their home base. We prefer to use the airport owner's records, since they reflect the aircraft which are actually present. Your aircraft certainly fit this criteria, and will be added to our inventory as based aircraft, and listed in the master plan narrative. We are also enclosing a copy of the User Survey form which was sent to the other based aircraft owners.

Comment 2: Our intent was not to write off future development and use of any of the existing runways. This initial phase of our work only addresses the current condition of the facilities. Further work will present alternatives and recommendations for future development. An analysis of wind data will be a part of this work. Each alternate presented to the PAC will include a general cost

versus benefit analysis. Our evaluation is that the closed runways are not usable for aircraft operations at this time. Runway 8-26 is currently open for use, but in our opinion is suitable only in high wind conditions which would constitute a hazard on Runway 17-35. Again, we will provide recommendations for consideration by the PAC when we are further into the study.

Comment 3: Your concerns regarding the surface characteristics on Runway 17-35 have been noted, and will be included in the revised Working Paper.

Comment 4: The weed problem on Runway 8-26 has been noted. Perhaps a word stronger than "encroaching" could be suggested.

Comment 5: We are in agreement with you on the condition of the taxiways. The intent of our work is to recommend the best actions to alleviate the problem. Our report notes that all pavements except Runway 17-35 are in need of reconstruction. In the report, they are all rated as "Poor" indicating that the pavement is not adequate for its intended purpose at the present time.

Comment 6: Our report notes that structural damage is evident in the roof trusses of the Cannery and recommends specific testing to determine integrity of the structure. The reference to the "new roof" is attributed in the report to Alfonso - that's all we know about it. We assumed that the reference to a "new roof" refers only to application of material which would mitigate the leakage problem.

Certainly all three of the steel-sided hangars are in a state of disrepair. Our opinion is that #3 is the worst in terms of evident structural problems. Based on your comments, it seems that all three should get a "new roof".

It is noted that you are the occupant of Hangar #1. The improvements will be noted in the updated Working Paper.

Comment 7: The preliminary package sent to all PAC members did not include Figures 2-1, 2-8, 2-9 and 2-10. These were not completed as we approached our submittal deadline. Our judgement was that it would be better to send out the Working Paper with some information missing than to short-change you on your review time of the completed material prior to the meeting. The missing drawings will be distributed at the next PAC meeting, when discussion of the entire package is planned.

Comment 8: Our research at the County offices turned up only one lease. Please let us know when your lease negotiations are completed. Perhaps working together on the PAC team will help solve some of the communication problems you have experienced in the past.

Comment 9: Your comments on the current use of BDI have been noted. The next phase of the work includes preparation of an estimate of current operations, as well as forecasts for future activity. We would especially appreciate your further input on current activity. Could we spend some time talking about this between the two meetings on Thursday?

Comment 10: (see #9 above)

Comment 11: The service areas (shown on the maps) are based on approximate driving times, not straight-line distances. The straight-line distances in the tables are for reference purposes. Perhaps we can

clarify this in the report. Theory aside, the important service area in this case is the one which defines where based aircraft users live. *Maquilladora* companies are a special case which will be addressed in the Forecasts section.

Comment 12: Page 2-13 mentions the ADIZ. We are aware of the advantage that BDI has in terms of its distance from the border and the ADIZ. As a pilot, I will agree that most pilots would rather stay away from the border if given an alternative.

Comment 13: (see #1 above)

Comment 14: Our intent was not to infer that the two-day observation period is sufficient for any statistical analysis. The report does say this, at the bottom of page 2-20, and notes that in-depth analysis will be performed during the Forecasts portion of our work. Again, we will appreciate your input regarding current use.

Comment 15: We don't see a problem here. The drawing indicates that Hangar #1 is in use for aircraft storage (Occupied). Should other uses be made a matter of public record in the Master Plan?

Comment 16: (shown as #13) The drawing notes that the capacity of each hangar is 5 or 6 aircraft, *assuming no wing overlap*. Please provide a sketch showing tenant improvements in Hangar #1. Note that these drawings are not meant to be detailed floor plans, only tools to help determine potential future uses for the buildings.

Regarding your comments about your past problems with other members of the PAC, we hope that these issues can be resolved satisfactorily. We are confident that they will not impede your PAC team's common goal - a better BDI airport facility.

We thank you again for your interest and timely input. We look forward to working with you on the PAC team.

Sincerely,

Nicholas J. Pela

c: All on BDI PAC Team distribution list.

ATL, INC.
CONSTRUCTION QUALITY CONTROL
GEOTECHNICAL CONSULTANTS

November 15, 1996

Mr. Ronald D. Schreier, P.E.
Gannett Fleming
3001 East Camelback Road
Suite 130
Phoenix, Arizona 85016-4498

Re: Bisbee-Douglas International Airport
Cochise County, Arizona
ATL Job No. 195050

Dear Mr. Schreier:

As requested, ATL, Inc. (ATL) has completed a site reconnaissance at the subject airport. The reconnaissance was completed on October 3, 1996 and included taking photographs of the airport as well as noting deficiences in the pavement sections. A summary of our observations, a photo log, a photo site map and vicinity map are attached for your reference.

DISCUSSION & RECOMMENDATIONS

It is our understanding that the airport was originally developed by the military. The existing taxiways, runways and aprons cover an area of 2600 plus acres.

The attached photographs clearly show the condition of the airport. The following summarizes our observations and recommendations.

Runway 3-21: Overgrown with weeds, ravelled surface. Reuse pavement as ABC.

Runway 8-26: Some weeds. Highly cracked and ravelled. Reuse pavement as ABC.

Runway 17-35: This runway has a new overlay of asphaltic rubber, approximatley 55 ft. wide. It can be salvaged and used as is. On either side of this strip is older pavement that may be left in place and overlaid using a geofabric and asphaltic rubber or PCCP.

Runway 12-30: This runway is overgrown with grass. AC is cracked and ravelled. Could reuse pavement as ABC.

2912 W. CLARENDON
PHOENIX, AZ 85017
TELEPHONE (602) 241-1097
FAX (602) 277-1306

820 E. 47TH STREET, SUITE B-1
TUCSON, AZ 85713
TELEPHONE (602) 623-4547
FAX (602) 623-4603

1400 N. BROAD
GLOBE, AZ 85502
TELEPHONE (602) 425-8999
FAX (602) 425-9597

1840 W. KAIBAB LANE #2[illegible]
FLAGSTAFF, AZ 86001
TELEPHONE (520) 773-96[illegible]
FAX (520) 773-9522

Taxiways T-1, T-3, T-4, T-5, T-6:

The level of degradation varies from one end to the other. We recommend that all the taxiway pavements be milled and the material used for ABC.

Aprons:

The apron area extends approximately 8200 feet from north to south, with the active terminal near the south end. The apron consists of portland cement concrete strip adjacent to the buildings and an overgrown asphaltic cocnrete apron area west of PCCP strip.

ATL recommends that the asphaltic concrete portion of the apron be milled and reused as ABC. The portland cement concrete portion may be used as is, if a geofabric is installed and an AC overlay placed.

The photographs provide a good perspective of the airport's pavement condition. Lack of use and lack of maintenance have resulted in early oxidation of existing asphaltic concrete pavements. The result is ravelling, segregation and loss of flexibility. The portland cement concrete pavements found mostly in the apron area are cracked but repairable.

Reclamation of the pavements is recommended thereby allowing us to conserve a non-renewable resource aggregate. In-place milling, demolition and recrushing are both common methods utilized to re-use materials from old pavements. Since future airport improvements will likely occur within a smaller footprint than the older airport configuration, reclaimed material could provide most of the AB demands.

If you have any questions concerning this report, please do not hesitate to contact us. You will note that we did not evaluate the industrial area roads east of the airfields.

Very truly yours,

David P. Hayes, P.E.
Executive Vice President

Registered Professional Engineer (Civil) CERTIFICATE NO. 22719 David Preston Hayes 11/15/96 ARIZONA, U.S.A.

DPH/rg
Attach:
cc: F. Rivera

DOUGLAS - BISBEE AIRPORT
ATL JOB No. 196050
SITE OBSERVATIONS

1. **Apron - South Portion in front of Terminal**
   a. Alligator cracked to 6" size.
   b. Raveling at many of the cracks.
   c. Raveling in the top seal coat.
   d. Considerable grass growing through the pavement on South end.
   Observations as follows:
   e. 0.5 - chip seal
   f. 1.5 - old AC very poor, little AC binder
   g. Low quality AB.
   h. Chip seal off in areas of several square yards.

2. **Apron - South Portion**
   More recent chip seal than #1, underlying pavement sames as #1, less raveling, many weeds. 2-inch total thickness of AC.

3. **Apron - Center Portion**
   Old pavement under 0.5 inch gravel surface (Weathered AC) Old pavement under seal coat in #1. Covered with 2-ft. highgrass and 6-ft. high bushes.

4. **Apron - North Portion**
   60 feet wide strip along concrete similiar to #2, remainder similar to #3.

5. **Apron - Concrete Portion** PCCP in good-to-fair condition, light spalling at some joints. Grass in joints. No faulting of slabs. Some slabs highly cracked, no faulting at cracks. Slab is 12" thick with keyed joints.

6. **Taxiway T-4**
   24 feet wide, fair surface condition. Alligator cracked. Chip seal surface 25% worn. Outside the 24 feet strip of newer AC is old AC similar to bottom of #1.

7. **Taxiway T-4, near T-5**
   25'L x full width of taxiway, rutted to 2-inch depth. Highely cracked. Asphalt cement on surface.

8. **Taxiway T-3**
Easterly 400 feet x 50 ft wide similar to apron #1, much grass in edges. Remainder newer AC is 1.5 inches thick. Fair condition on surface. Moderate to heavy cracking, light raveing at some cracks, areas of alligator cracking to 8" size. One 8 ft. x 50 ft area highly cracked.

9. **Taxiway T-2. From Apron to Runway 12 - 30**
Appears same as newer protion of T-3, same from Runway 12 - 30 to Runway 17 - 35.

10. **Taxiway T-1. Apron to Runway 12 - 30**
Similar to newer portion of T-3. Some attempt has been made to seal some cracks on this taxiway. Moderate to heavy cracking, 50' wide. Taxiway T-1, Runway 12 - 30 to runway 17 -35 same.

AC, 2-inch thick. Thin layer of gravel than PCCP. At sample point, PCCP very thin. Crack pattern does not show concrete under AC. Outside 8' strips appear different (smooth surface texture) No PCCP found under outside edge.

11. **Runway 12 -30**
Over-grown with weeds and grass. Surface highly cracked and raveled. Chip seal on old AC similar to #1. Thickness 2 inches. Same for full length of runway.

12. **Runway 8 - 26**
Light growth of weeds. Chip seal surface. Raveling considerable at cracks. Alligator cracks to 6" length, most 18 - 24 inch. Total AC thickness 3.75 inches. Top 1" appears newer, lower AC very weak.
Chip seal worn off in some areas.

13. **Runway 3 - 21**
Chip seal surface, much of it ravelled off. Thickness 4.25 inches, Top 1" good. Lower same as #12. 8-inch long alligator cracks. Light-to-moderate grass. Surface appears like fine gravel due to loose chips.

14. **Taxiway T-5**
North end. Little AC remaining, heavy growth of grass. AC appears to be brown gravel.

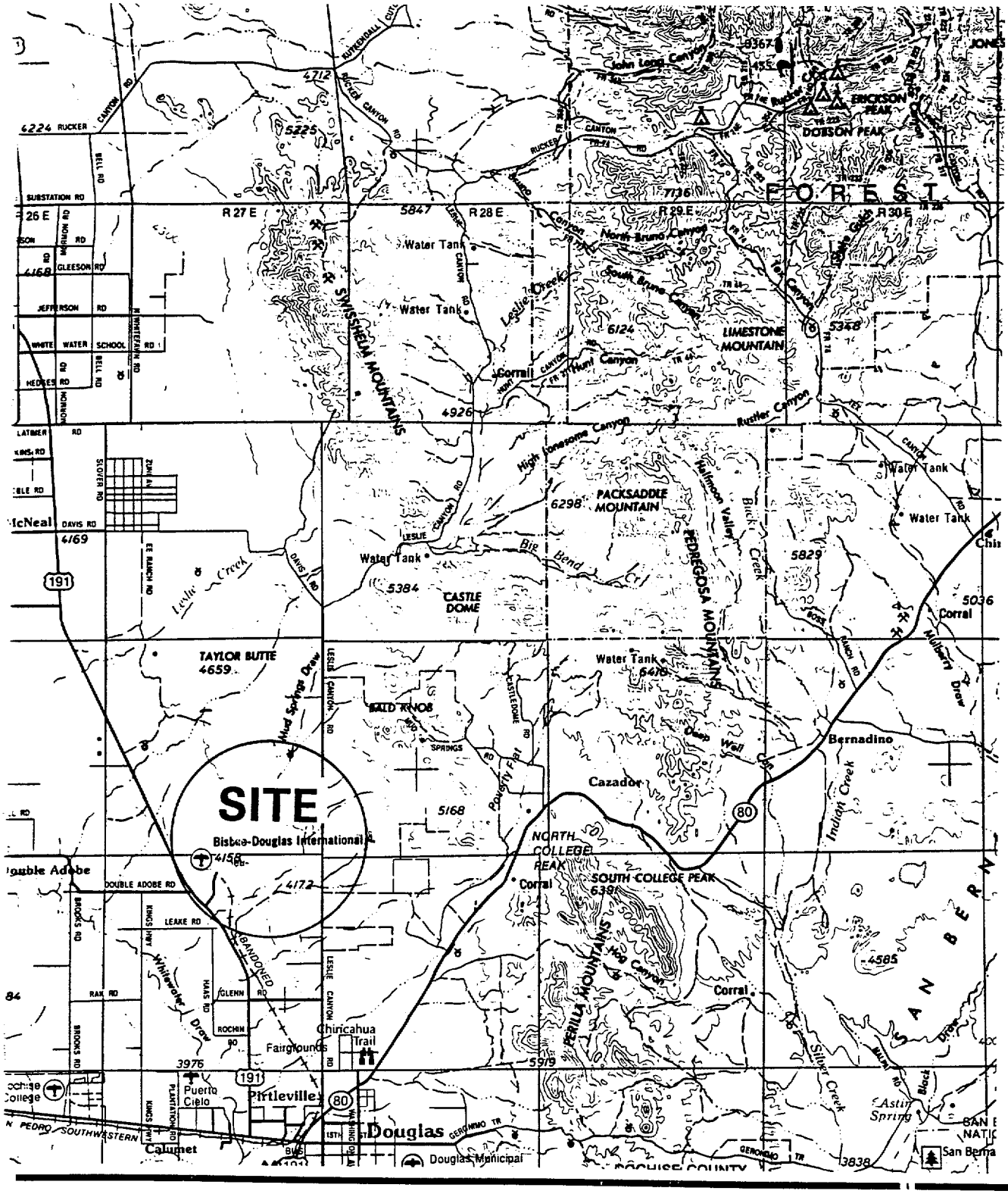
15. **Taxiway T-6 Runway 17 - 35 to Taxiway T-4**
Sames as #14.

16. **Runway 17 - 35**
55 ft in center, newer chip seal, coarse chips (0.5 inch)
Good condition, Rubberized asphalt. Outside 50' ±, on each side old AC. Moderate-to-heavy cracking. Old runway had 90 ft. ± wide PCCP concrete reported to be 14 inches thick under 6.25 inches of A.C. Light grass in outside 30 ft. of A.C.

17. **Taxiway T-3 Runway 17 - 35 to Runway 12 - 30**
AC with raveling chip seal surface. Alligator cracked to 2 feet long. Moderate growth of grass.

18. **Taxiway T-5 South end**
Highley alligator cracked. Moderate to heavy grass. Chip seal surface.

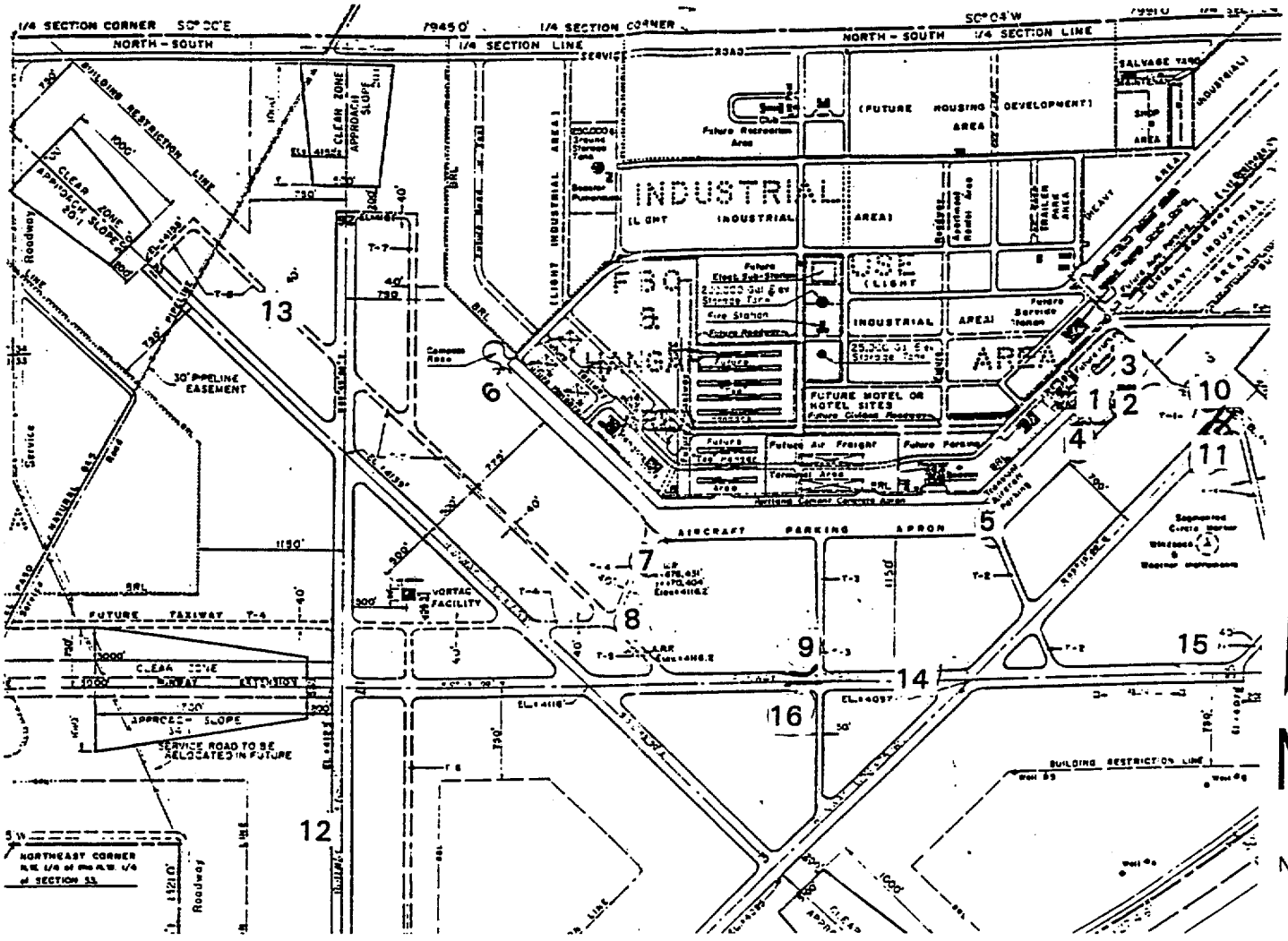
19. **Taxiway T-5, from T-4 north**
Very dense grass, Old AC. Very poor.



VICINITY MAP

BISBEE - DOUGLAS INTERNATIONAL AIRPORT

ATL JOB NO. 196050



PHOTOGRAPH LOCATIONS

BISBEE - DOUGLAS INTERNATIONAL AIRPORT

ATL JOB NO. 196050

COLOR SITE PHOTOGRAPHS

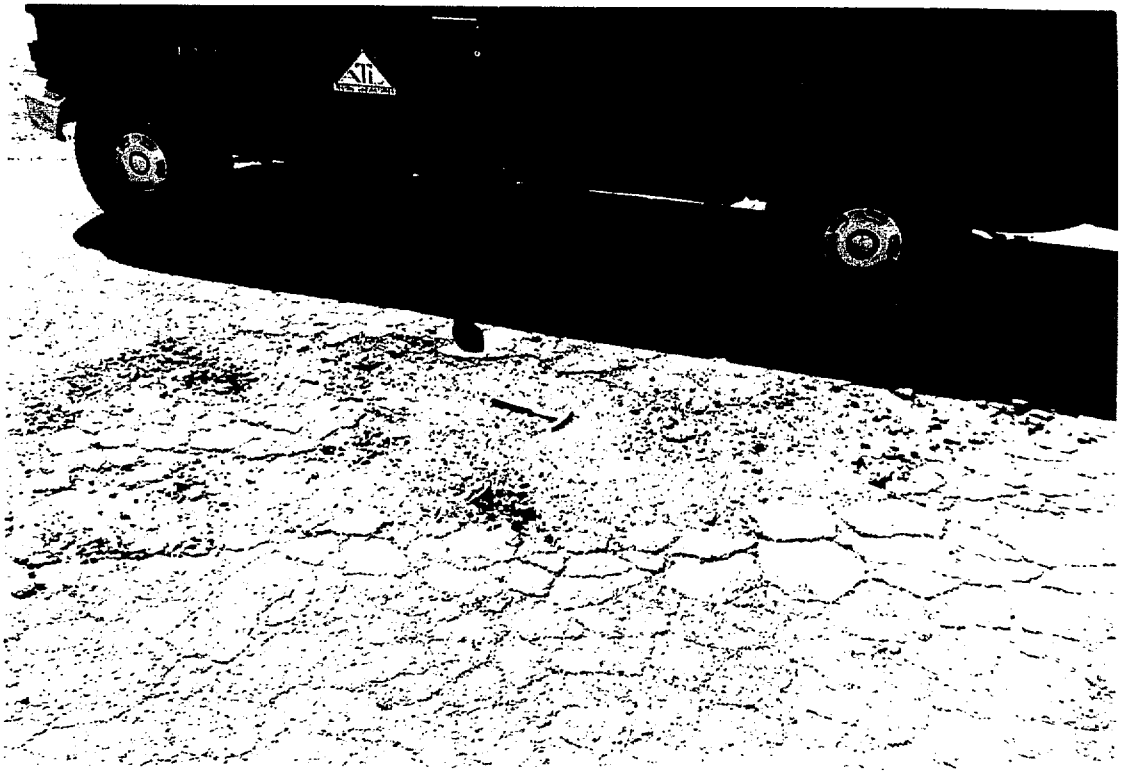


Photo 1 **Apron - South Portion in front of Terminal** - Alligator cracked to 6" size.

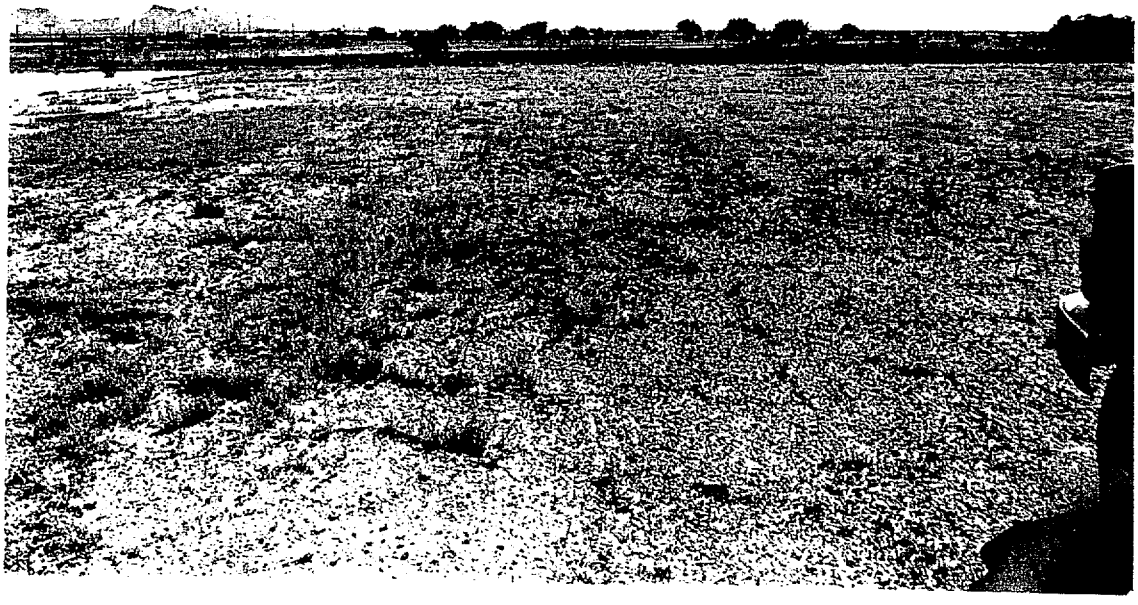


Photo 2 **Apron** in front of **Terminal**- Considerable grass growing through the pavement on the South end.

Photo 3 **Apron - South Portion** - More recent chip seal than #1. Two inch total thickness of AC.

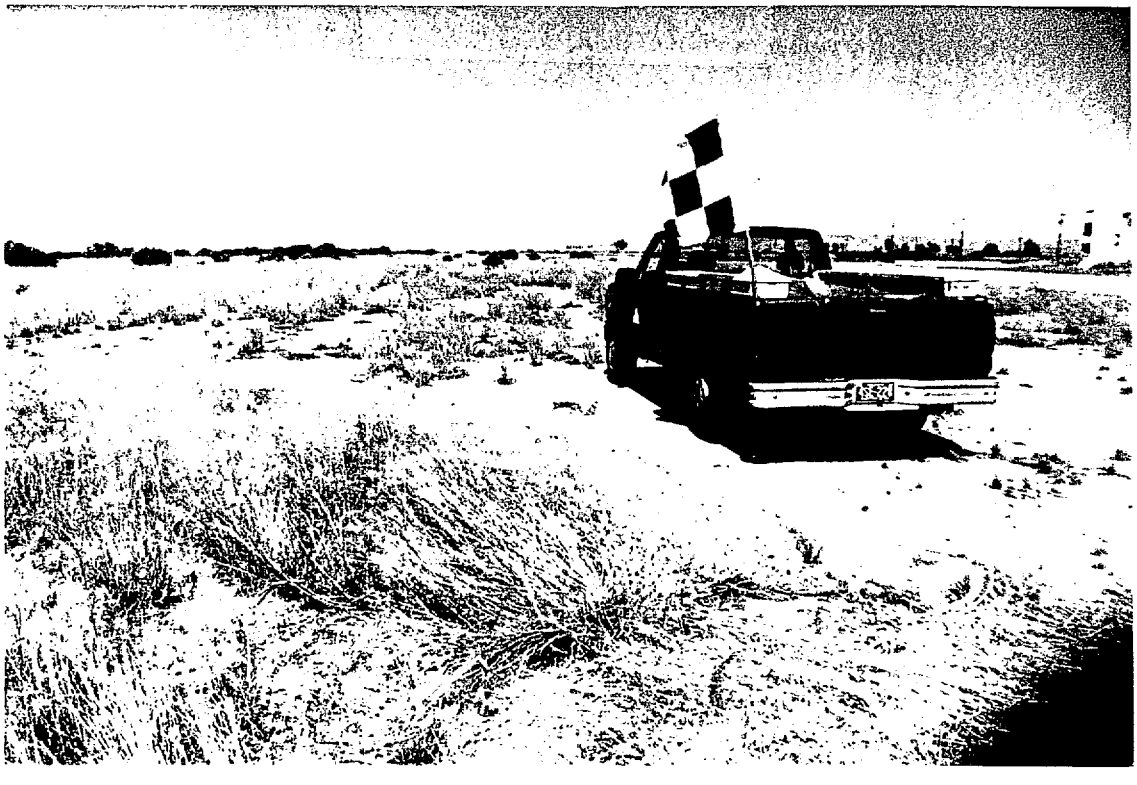


Photo 4 **Apron Center Portion** - Old pavement under 0.5 inch gravel surface.

Photo 5 **Apron - Concrete Portion** - PCCP in good-to-fair condition.

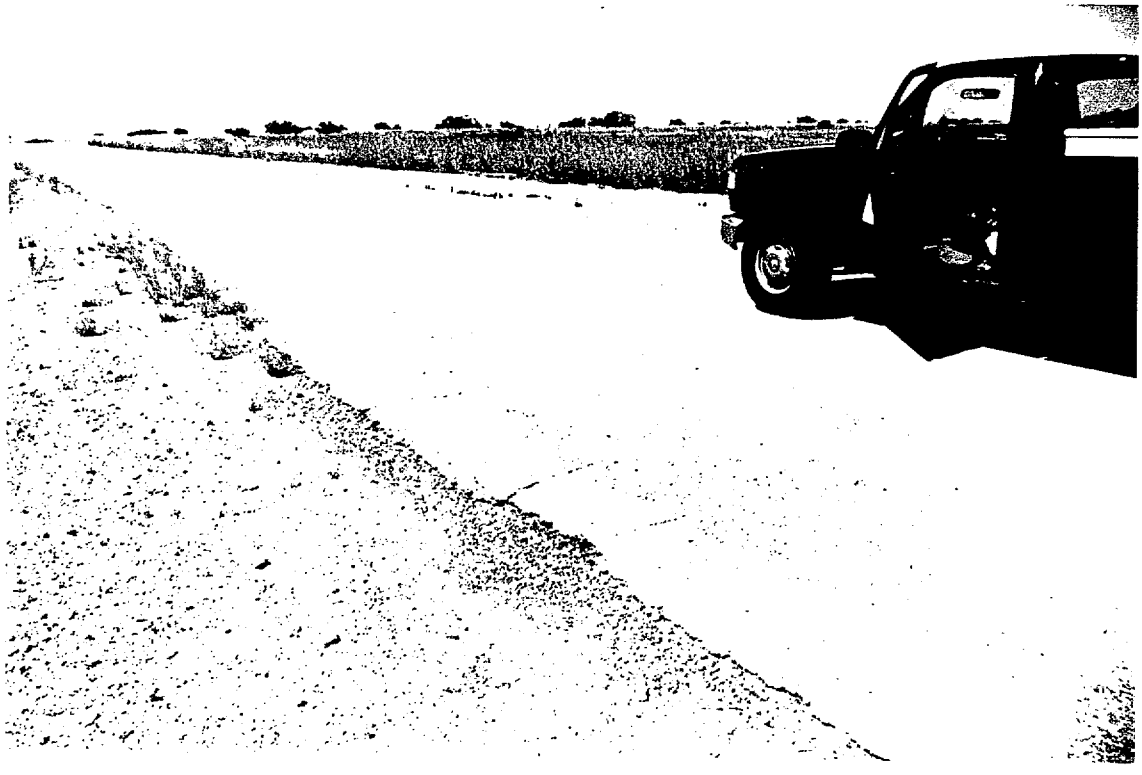


Photo 6 **Taxiway T-4** - 24 ft. wide chip seal surface is 25% worn.

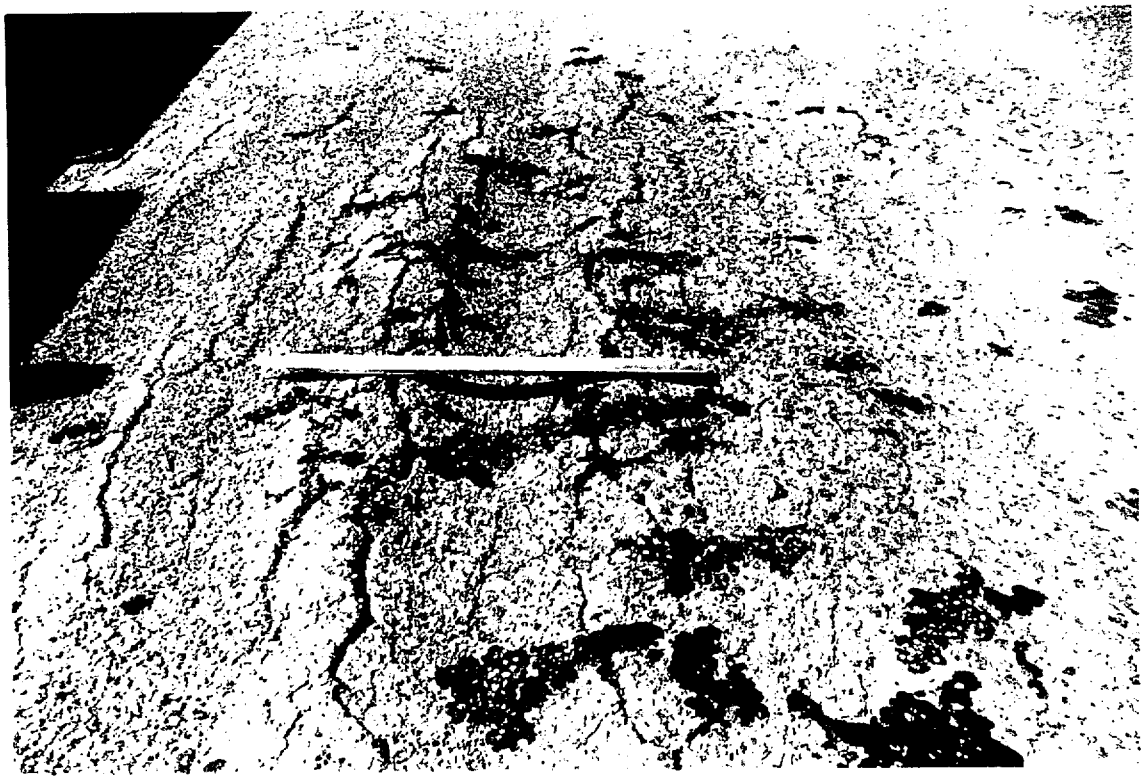


Photo 7 **Taxiway T-4 near T-5** - Rutted to 2-inch depth. Highly cracked with bleeding residue.

Photo 8 **Taxiway T-3** - 8 ft. x 50 ft. area highly cracked.

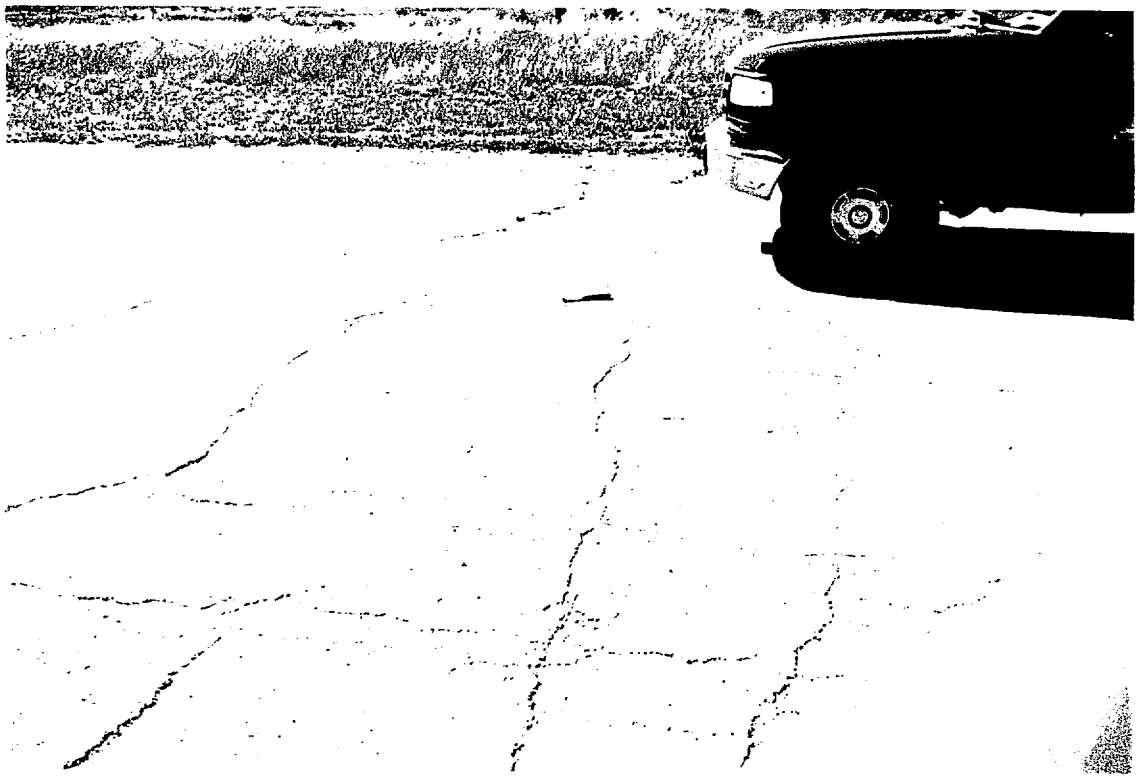


Photo 9 **Taxiway T-1. Apron to Runway 12-30.** AC, 2-inch thick. Thin layer of gravel than PCCP. At sample point, PCCP very thin.

Photo 10 **Runway 12-30.** Surface highly cracked and ravelled. Chip seal on old AC similar to #1. 2-inch thick AC.

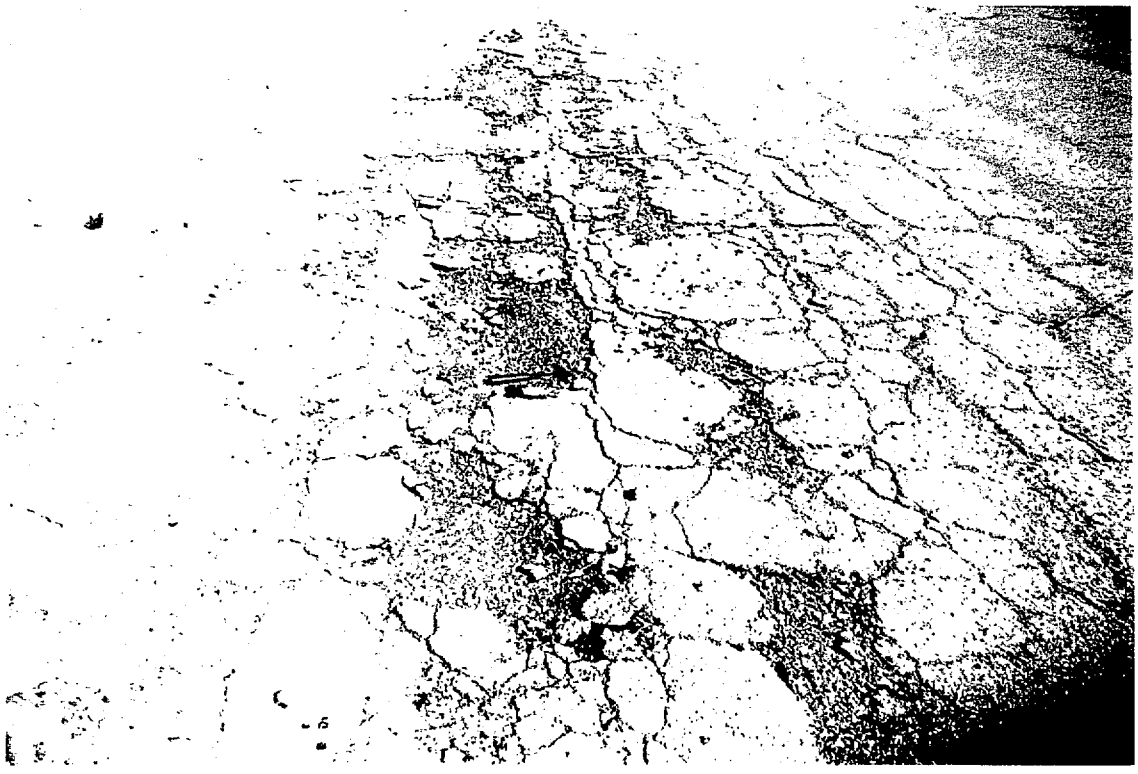


Photo 11 **Runway 8-26** - Total AC thickness 3.75 inches. Chip seal worn off in some areas.

Photo 12 **Taxiway T-5 North end.** Little AC remaining, heavy growth of grass. AC appears as brown gravel.

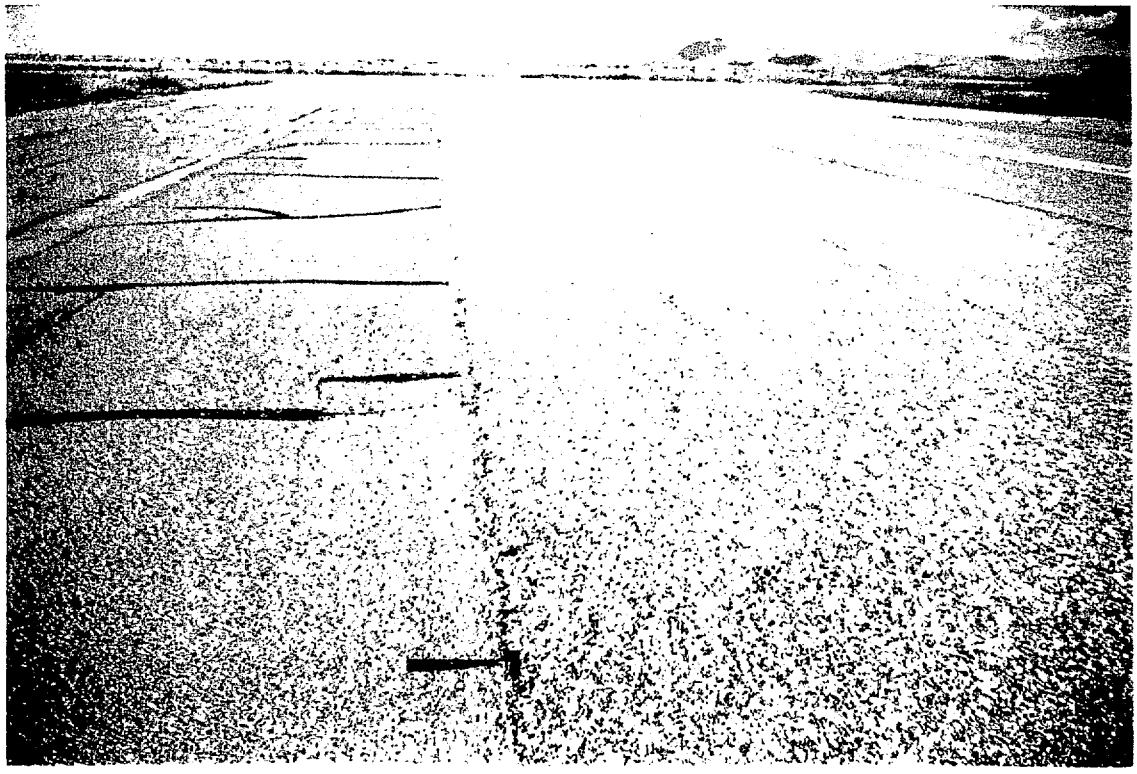


Photo 13 **Runway 17-35** - Newer chip seal 55 ft. wide. Coarse chips (0.5 inch). Good condition, rubberized asphalt.

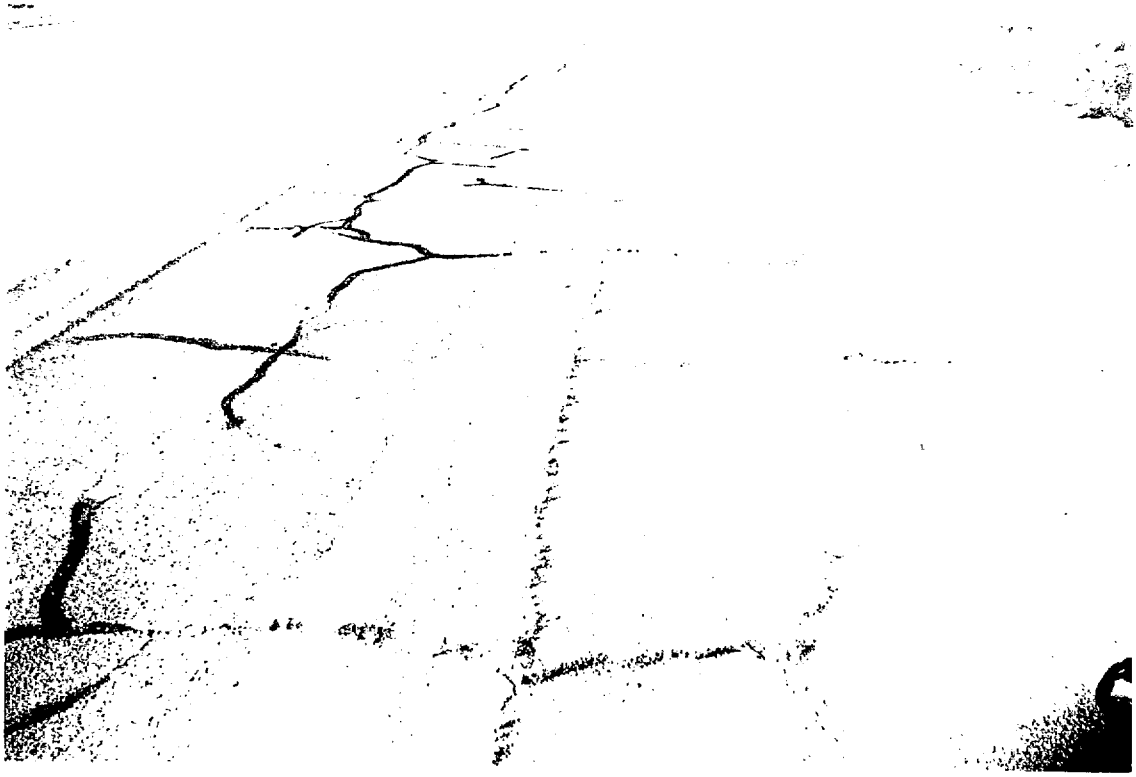


Photo 14 **Runway 17-35** - Old runway had 90 ± wide PCCP concrete reoprted to be 14 inches thick under 6.25 inches AC. Light grass in outside 30 ft. of AC.

Photo 15 **Taxiway T-3. Runway 17-35 to Runway 12-30** - AC with raveling chip seal surface. Alligator cracked to 2 ft. long. Moderate growth of grass.

Photo 16 Concrete Apron in front of main Terminal building.

Gannett Fleming

Meeting Minutes
P.A.C. Meeting No. 1
for
Bisbee-Douglas International Airport
Master Plan
GF Job No. 31268

Thursday, November 21, 1996
Cochise County Complex, Melody Lane
Bisbee, Arizona

Attendees:

Audrey Jupin, Cochise County Economic & Community Development
Glen Wilson, ADOT - Aeronautics
Bayer Vella, Cochise County Planning & Zoning
Jim Olson, Cochise County Facilities Management
Jim Vlahovich, Cochise County Planning & Zoning
Daryl Elam, PAC
Richard Hlavenka, PAC
Sam Place, PAC
Ian McCloskey (for Phil Atlas), PAC (Cochise College)
Ron Schreier, Gannett Fleming
Nick Pela, Nicholas J. Pela & Associates
Ray Boucher, ADOT - Aeronautics
Dave Guy, PAC
Michael Ortega, PAC (City of Douglas)

Minutes prepared by: Ron Schreier

The order of items discussed at the meeting generally followed the list of items on the attached agenda. The following are the major points of discussion.

1. **Introductions**: Attendees introduced themselves.

2. **Review of PAC Process**: Ron Schreier, Project Manager for the consulting team, introduced Nick Pela who utilized Figure 1-1 to explain the Planning Advisory Committee process for developing an Airport Master Plan. The need for "consensus" from the group in accepting the working papers was noted. The consultant will send working papers to committee members for review 10 days to two weeks ahead of the next scheduled meeting. Committee members should hold all comments until they can be discussed at the meeting.

3. **Schedule**: There were no comments or revisions to the attached schedule. Regarding the planned public meetings, Audrey Jupin noted that the public meeting's are advertised in the Douglas Dispatch and Bisbee Review. Flyers are posted in the post offices and libraries from Alfreida south and Sierra Vista east. Written public services announcements are sent to those on the County's media list (including Tucson media).

4. **Discussion of Working Paper No. 1, Sections One and Two**:

   a. Last federal grant was in 1992. Grant assurance stated that BDI must remain a public airport for 20 years.

      The deed for the airport would revert back to the government if it is not used for aviation. Ray Boucher thought this could be modified.

   b. **Pavements:** Ron Schreier said that the inside 60 feet of runway 17-35 pavement is in "fair" condition as is the PCC Apron and the airport access road up to the terminal parking lot. All other pavements are in poor condition.

      Regarding pavement strengths for Runways 17-35 and 8-26, Jim Olson has some records based on actual cores taken.

   c. **Wind direction is critical to selection of runway alignment**. There is no existing wind rose. A wind rose should be constructed prior to deciding which runway(s) should be developed and/or maintained. The consultant noted that construction of a new wind rose is not in the Scope of Work, but agreed to create one if the wind data is readily available.

   d. **Hangars**: Double check references to hangar numbers in the text against the numbers assigned in the drawings to make sure they match.

      Questions that need to be answered: Should hangars be saved or demolished; what can they be used for? Investigate historic significance of hangars?

      Daryl Elam said he gets visitors at his hangar from people who did pilot training at BDI Airport. There is some nostalgic interest.

      Hangar No. 4 has asbestos siding. Will only have to mitigate this problem if improvements are done to the hangar and the siding is disturbed.

   e. **Wastewater System**: The Arizona Department of Corrections is the sole user of the Wastewater Treatment Plant, Jim Olsen said. The terminal building and four hangars at the airport are on a septic tank and leachfield. The plant had exceeded its capacity and had discharged wastewater into the draw downstream; the plant was not in legal compliance; plant is under a consent order. There is a plan to tie into the Douglas Sewer System within 5 years.

f. **Drainage System**: Daryl Elam noted there do not appear to be any drainage problems.

g. **Water System**: Wells 7 and 8 are in operation. Well capacity is 150gpm. The water reservoir north of the prison is not in use. 99%of the water use is by the prison. The County has permits in the wells. Water bills from the prison and airport and other utility bills are available from the County.

h. **Financial Summary**: According to Jim Olson, the main sources of revenue are: fuel sales; water sales; and hangar rents. Water sales will drop from what they have been since water rates are now lower. When County operated wastewater plant the prison was charged for sewage collection, but no more. The rate dropped from $1.45/gallon to $0.83/gallon. This started July 1996.

i. **Fuel System**: County wants to get out of fuel business and have this handled by a Fixed Base Operator.

Discrepancy in use of fuel in 1994-95 vs. 1995-96: The Army and Forest Service use fuel sporadically. This can account for apparent "skip" in fuel use. Also the FBO left in 1994-95.

There are three fuel storage tanks. Jim Olson has plans which note the sizes.

j. **Land Use**: The County will lease the Department of Corrections approximately 20 - 30 more acres for sludge drying beds (expansion of wastewater treatment plant).

Sam Place deeded some land (zoned RU-2). County is to provide information to consultant.

Sam Place would like a copy of the horizontal control plans the consultant found in County records.

k. **Airspace**: The Mexican border and the Air Defense Identification Zone are restrictive. It was suggested that FAA input be sought in Airspace issues.

l. **"Maquiladoras"**: BDI is important to the "Maquiladoras". Can find out which companies use BDI by checking airplane ownership (eg. Allied Signal).

It was suggested that the PAC include a representative from Sonora, Mexico.

There are 8,500 employees working in Maquiladoras. If the companies can be accommodated they are more apt to stay where they are or to increase employment. The City of Douglas is working on getting Cargo Service at Douglas Municipal Airport. All that is occurring now is "emergency stuff". But they are looking into

two regular flights out a day to Phoenix or Tucson. These flights connect to the "Pacific Rim".

m. **Service Area**: Regarding the Air Carrier Service Area - it involves looking at BDI as more business-oriented with a potential for regular service.

n. **Cochise College**: A private individual cannot "base" his aircraft at Cochise College.

o. **Douglas Municipal Airport**: The border is flown over to access existing runway. The City has plans for a new runway.

p. **Based Aircraft at BDI**: County has list. All of Mr. Elam's aircraft have not yet been included in the count.

q. **BDI Airport Uses**: The airport has been used for Army training. The Army set up tents and satellite dishes near Well No. 7 for communications training. Army supports Border Patrol. Sometimes they rent hangar #2.

The airport has movie location potential. Scenes from the recent "Terminal Velocity" were filmed there. Jim Olson said a movie company recently showed interest.

The minutes above are intended to be a summary of the relevant items of discussion. If any of the statements are incorrect or if the minutes are incomplete, please contact Ron Schreier at Gannett Fleming (602) 553-8817.

pc: All attendees and those on the distribution list.

Gannett Fleming
ENGINEERS AND PLANNERS

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BISBEE-DOUGLAS INTERNATIONAL AIRPORT
MASTER PLAN
PLANNING ADVISORY COMMITTEE (PAC) MEETING NO. 1
GANNETT FLEMING JOB NO. 31268
AGENDA

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1. Introductions
2. Review of PAC Process
3. Discuss/Confirm Schedule
4. Discuss Working Paper No. 1: Inventory
   - A. Pavement
   - B. Buildings
   - C. Utilities and Drainage
   - D. Financial Summary
   - E. Land Use
   - F. Airspace System
   - G. Service Areas
   - H. Based Aircraft
5. Discuss Additional Information Needed.
6. Discuss Public Meeting No. 1
7. Next Meeting

BISBEE-DOUGLAS INTERNATIONAL AIRPORT

MASTER PLAN
SCHEDULE

OCTOBER 10, 1996

MEETING	DATE
Kick-Off Meeting	2:00 pm Thursday, October 10, 1996 Cochise County Complex, Bisbee
PAC Meeting No. 1	1:30 pm Thursday, November 21, 1996 Cochise County Complex, Bisbee
Public Meeting No. 1	6:30 pm Thursday, November 21, 1996 BDI International Airport, Douglas
PAC Meeting No. 2	Thursday, January 23, 1997 BDI International Airport, Douglas
PAC Meeting No. 3	Thursday, March 20, 1997 BDI International Airport, Douglas
Public Meeting No. 2	Thursday, March 20, 1997 BDI International Airport, Douglas
PAC Meeting No. 4	Thursday, May 15, 1997 BDI International Airport, Douglas
Public Meeting No. 3	Thursday, May 15, 1997 BDI International Airport, Douglas
PAC Meeting No. 5	Thursday, June 26, 1997 BDI International Airport, Douglas
Public Meeting No. 4	Thursday, June 26, 1997 BDI International Airport, Douglas

BDD PAC
11/21/96

Sign In

Name	Affiliation
Audrey M Jupin	Cochise Co.
Glen Wilson	ADOT/Aeronautics
Bayer Vella	Cochise Co / P+Z
Jim Olson	Cochise County Facilities
Jim Vlahovich	Cochise County P+Z
DARYL ELAM	P.A.C.
Richard Hlovacka	P.A.C.
[illegible]	P.A.C
IAN McCloskey FOR PHIL ATLASS	COCHISE COLLEGE
RON Schuetz	GANNETT FLEMING
NICHOLAS PELA	N.J. PELA & ASSOC.
Ray Boucher	ADOT - Aeronautics Aviation Program Analyst
[illegible]	PAC member
MICHAEL J. ORTEGA	CITY OF DOUGLAS

Gannett Fleming

MEMORANDUM

TO: Planning Advisory Committee Members

FROM: Ronald D. Schreier, P.E.
Gannett Fleming, Inc.

DATE: January 6, 1997

SUBJECT: PAC Meeting

NOTICE:

The second Planning Advisory Committee Meeting will be held on Thursday, January 23, 1997 at Bisbee-Douglas International Airport at 1:30 p.m.

Gannett Fleming
ENGINEERS AND PLANNERS

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Phoenix, AZ 85016-4498
Fax: (602) 553-8816
Office: (602) 553-8817

Meeting Minutes
P.A.C. Meeting No. 2
for
Bisbee-Douglas International Airport
Master Plan
GF Job No. 31268

Thursday, January 23, 1997
Bisbee-Douglas International Airport
Douglas, Az.

Attendees:

Audrey M. Jupin, Cochise County Economic and Community Development
Phil Atlas, PAC (Cochise College)
Hector M. Salinas (for Michael Ortega), PAC (City of Douglas)
Sam Place, PAC
Bayer Vella, Cochise County Planning and Zoning
Dave Guy, PAC
Daryl Elam, PAC
Richard Hlavenka, PAC
Ron Schreier, Gannett Fleming
Nick Pela, Nicholas J. Pela & Associates

Minutes prepared by: Ron Schreier

The order of items discussed at the meeting generally followed the list of items on the attached agenda. The following are the major points of discussion.

1. **Review and Approve Minutes of PAC Meeting No. 1:** There were no comments on the meeting minutes for PAC Meeting No. 1.

2. **Review and Approve Working Paper No. 1:**

   A. Section 1- Introduction and Background:

   Schreier noted the changes to this section: on page 1-6, changing the current number of aircraft to 24; on page 1-9, adding a reference to the 1995 Arizona State Aviation Needs Study; on page 1-9, added a section on the "Use restrictions on BDI airport property."

Question: Do the conditions of the Quit Claim Deed imply that the County must provide upkeep for the airport?
Answer: The deed does seem to imply required upkeep, for example, Cochise County "shall adequately clear and protect the aerial approaches to the airport by removing, lowering, relocating," etc. (Paragraph 4 on page 1-9).

Question: Did the prison get an exception from airport use?
Answer: Pela said "yes". The County did secure an Instrument of Release from the FAA to release an undefined 72.62 acres of land at BDI for non-aviation use (signed by Herman Bliss on May 26, 1981). The Release includes a legal description of the entire airport property as a definition of the property to be released.

Question: Prison officials are claiming they have the right to control the prison's airspace?
Answer: The instrument above reserves the airspace above the released property "for the use and benefits of the public", and guarantees the County "the right to cause in said airspace such noise as may be inherent in the operation of aircraft." A height restriction of 4,080 feet (MSL) is also included in the instrument.

B. Section 2- Inventory of Existing Conditions:

Schreier noted that most of this section was updated or expanded. Among the changes were: on page 2-5, the hangar numbering was made consistent and clarified; on page 2-9, the sewer system description was revised; on page 2-12, the water sales rate to ADOC was revised; on page 2-18, the based aircraft inventory was corrected; generally, all maps were updated and dated.

Question: What are the terms of the treatment plant agreement?

Question: What happens if the Douglas sewer is not built and the airport is not connected?

Question: What is the capacity of the septic system?

Statement: The ravine is still being used as a trash dump (North side of airport). There was dumping as recent as two weeks ago (immediately off Runway 17). The dump would be in the way of any runway extension.

Schreier said that answers to these questions will be sought and the sections will receive a final edit as needed. There were no further comments concerning Sections 1 or 2.

3. Discuss Working Paper No. 2- Section 3- Forecasts of Aviation Activity:

Pela presented the forecast section, explaining that this section is one of the most important parts of the Master Plan. The overall goal of this section is to come up with reasonably justifiable forecast numbers. Pela made the following statements:

* The number of registered aircraft in Cochise County peaked in the mid-80's, then declined in the early 90's, even though the County population was growing.

* Despite the decline in the number of County-registered aircraft, the number of aircraft based at BDI was constant, 24. This represents an increased market share for BDI within the County during this time period.

* The forecast of probable maximum level of activity is based on the rehabilitation of the airport; that the airport will be used more if the facilities are repaired. The increase in useage could happen immediately after renovations, in five years, or never. Facilities will be sized based on this forecast.

* Pela also read excerpts from page 3-20, "Qualifications of Results."

Question: How was 3,285 operations (for actual current activity- page 3-11) arrived at?
Answer: The number of operations is based on information provided by the survey of aircraft owners and on the short-term traffic count.

Statement: The number seems conservative. Touch and goes and air traffic from Ryan Field do not seem to be represented.
Answer: Pela said we are not using the 3,285 operations for planning; we are using the 25,650 operations.

Statement: Daryl Elam said he did not get a copy of the users survey.

Question: Wouldn't it be prudent to have more than one alternative; not just hang it on 25,000?
Answer: Pela said the forecast should be looked at as a range, with the maximum probable number of operations at 25,650.

Question: Jupin asked if it would be more appropriate to use an economic indicator other than Cochise County's per capita income because it is so low when compared to other counties.
Answer: We look at the historical growth represented in the data as an indicator of economic health, not the dollar amount.

Statement: Elam said another factor is the makeup (type) of people. The County has a high percentage of retirees. How do you couple income with number of airplanes?

Statement: A low per capita income could be a reason to attract manufacturing since there is a source of cheaper labor. The increase in manufacturing could mean that air traffic would go crazy. It could be a boon for a place looking for growth.

Summary: Pela said we are not planning an airport for recreational use, but for business use.

4. Working Paper No. 3- Section 4- Demand/Capacity Analysis:

Pela presented the Demand/Capacity Analysis, making the following points:

* The hourly capacities are: Existing VFR=59, IFR 22; Ultimate VFR= 108, IFR 60. There is no capacity problem.

* The important part of this section is breaking down the air traffic into the Hourly Demand per Month as shown on page 4-6. The peak figure of 16 operations per hour will be used to determine needed apron space, hangar space, etc.

* The conclusion on page 4-7 states that there are no demand or capacity constraints at BDI; however the constraint is the condition that some pilots won't land at BDI, not because of traffic, but because of the condition of the facilities.

There were no comments on Section 4.

5. Working Paper No. 4- Section 5: Standards Compliance

Schreier presented the contents of this section which are summarized on pages 5-6 through 5-8.

Statement: One option may be to reopen Runway 3-21.

Answer: There are lots of alternatives not looked at; these will come later. Section 5 contains compliance issues with the current configuration.

Statement: Elam said for runway 17-35 he would favor alternative 2 to get the runway end away from the power lines.

Answer: Alternative 2 creates an extenuating circumstance-- extending the runway creates crossing runways which are not favored by the FAA due to the added hazard.

6. Next Meeting

The next meeting will be on March 20 (Thursday). Location is to be determined.

7. Miscellaneous

Pela indicated that we are ahead of schedule since Section 5 was not due to be completed until the next PAC meeting.

Highway 191 is mislabeled as Highway 666 on the figures.

The minutes are intended to be a summary of the relevant items of discussion. If any of the statements are incorrect or if key items were omitted, please contact Ron Schreier at Gannett Fleming (602) 553-8817.

Copies to: All attendees and those on the distribution list.

Gannett Fleming

BISBEE-DOUGLAS INTERNATIONAL AIRPORT
MASTER PLAN
PLANNING ADVISORY COMMITTEE (PAC) MEETING NO. 2
GANNETT FLEMING JOB NO. 31268
AGENDA

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1. Review and Approve Minutes of PAC Meeting No. 1.
2. Review and Approve Working Paper No. 1.
   - A. Section 1: Introduction and Background
   - B. Section 2: Inventory of Existing Conditions
3. Discuss Working Paper No. 2.
   - A. Section 3: Forecasts of Aviation Activity
4. Discuss Working Paper No. 3.
   - A. Section 4: Demand/Capacity Analysis
5. Discuss Working Paper No. 4.
   - A. Section 5: Standards Compliance
6. Next Meeting

BISBEE-DOUGLAS INTERNATIONAL AIRPORT MASTER PLAN
P.A.C. MEETING #2 01/23/97

NAME	REPRESENTING
NICK PELA	N.J. PELA & ASSOCIATES
RON SCHREIER	GANNETT FLEMING
RICHARD HLAVENKA	PAC
DARYL ELAM	PAC
DAVE GUY	PAC
Bayer Vella	County P+Z
SAM PLACE	PAC
Audrey M Jupin	Cochise County
Phil Arfas	Cochise College
[illegible] M. Salinas	City of Douglas

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FIFE SYMINGTON
Governor

LARRY S. BONINE
Director

GARY ADAMS
Division Director

January 21, 1997

Ronald D. Schreier
Vice -President
GANNETT FLEMING, INC.
3001 East Camelback Road, Suite 130
Phoenix, Arizona 85016-4498

RE: Bisbee-Douglas International Airport Master Plan, Chapters 3,4 and 5

Dear Ron:

I have reviewed the draft of Chapter 3 and have the following comments to make on the document:

Chapter III: Forecasts

Operations Forecast: Multiple Airport User Surveys data in the Great Lakes region may be appropriate if data were unavailable on airports in Arizona. However, significant data is available through the State Aviation Needs Study-1995, the MAG RASP Implementation Study-1996 and the PAG RASP-1995, to name only a few sources. There would appear to be more value to the Great Lakes data if the population statistics of the community associated with the airports used in the study were available. A correlation may be possible in comparing cities and their airports similar in size to those communities in the study area.

Again, *A Method of Estimating Annual Operations at Non-towered Airfields* used to estimate operations would have been a more meaningful tool if the data base was constructed with airports in Arizona, using socioeconomic data based on communities in the study area. The conclusions drawn based on airports in the Great Lakes region would have more validity if the database were constructed with factors associated with this region.

Based Aircraft Forecast: The statement that a rising share of the market (reference page 3-17, last paragraph) which occurs because the number of aircraft based at BDI remains constant while based aircraft throughout the County are declining, is indicative of "...growth potential at BDI", does not appear to be justified. Growth potential, from all of the historical data presented, appears stagnant at best.

Qualification of Results (ref para 4, 5th sentence): The "...16% of total annual fuel sales.", appears to be in error. The associated figures indicate a 1.6% figure. Also in this section, the 15% decline nationally in the number of registered pilots from 1983 to 1993 does not appear to enter in the discussion. A case could be made that the number of pilots in Cochise County has increased/declined/stayed the same during the period by examining registered pilots by County, data available through FAA.

page 2. (continued)

The forecast in annual operations to rise from 3,285 to 25,650 in one year (from 1996 to 1997) is based on the assumption that significant airport improvements are in place. We do not believe that such an increase is possible, even if "significant airport improvements" are undertaken at the airport. We believe it may be unrealistic to assume all airport improvements can be accomplished in one year. The improvements would have to applied for, approved, grants issued, consultants/designers/construction hired and the project completed before any reasonable increase in operational activity could take place. Even if we assume all of these factors are possible and are approved, it is extremely doubtful that the County could find the financial resources necessary to fund them all in one year. It is more reasonable to assume that such an activity level may be possible near the end of the first five year planning period. This would mean adjusting the forecasts of activity levels in both Chapter 4 and 5.

Although not addressed in the document thus far, perhaps a comment should be made concerning the validity of the forecasts should a decision be made by the County not to fund improvements at BDI. It might be helpful to provide a high and low forecast of based aircraft and operations based on either assumption.

Thank you for providing our department with the draft of Chapters 3,4 and 5. If you have any further questions, please do not hesitate to call.

Sincerely,

Ray Boucher
Aviation Program Analyst

cc: Cochise Cty Office of Economic & Community Development (Linda M. Small)

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NICHOLAS J. PELA & ASSOCIATES

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Arizona Department of Transportation
Aeronautics Division
PO Box 13588, Mail Drop 426M
Phoenix, AZ 85002-3588

January 29, 1997

RE: Bisbee-Douglas International Airport Master Plan
NJP #BDI.0001 GF #31268

Dear Ray:

We have received your comments, dated January 21, 1997, on the draft of Chapter 3 of the BDI Master Plan (Forecasts). The following are our responses.

1. Operations Forecast: The "Multiple Airport User Surveys" data used was obtained from surveys which have been collected by our staff, or by associating firms, over the years. It's "hands-on" data which represents a cross section of airports in five states, including some in Arizona. We are not as confident of the accuracy of operations data from existing systems planning documents. Much of the data used in systems planning work comes from the FAA 5010 forms, which are sometimes not very reliable.

   In the past, we've not been able to discern a sound correlation between operations per based aircraft and service area population. That's why we use a simple average of our own survey data.

   The methodology used to estimate annual operations (A Method of Estimating Annual Operations at Non-towered Airfields) is based on an independent research study done for the Great Lakes Region in 1995. The study used data for 24 Metropolitan Service Areas, which included ATC tower records of operations from 52 serving airports. We believe it to be a reasonable assumption that the resulting equations represent an approximation of activity at typical GA fields across the country. For your information, we are in the process of preparing a similar study using MSA data from the Four Corners states (Utah, Colorado, New Mexico

and Arizona). Preliminary indications result in very similar equations. As in the Great Lakes study, very good correlation is being found between the number of based aircraft and annual operations - not so good between other indicators. The preliminary mathematical models we've developed using the Four Corners data produces forecasts which are within about 10% of those of the Great Lakes study.

We believe that the selected methodology is adequate and that the results are quite reasonable. Note that it is not within the scope of our contract to develop new forecasting models. We can, however, provide a comparative forecast for BDI using the draft Four Corners model when it is completed.

2. Based Aircraft Forecast: The fact that the number of based aircraft at BDI has remained the same for at least the last 13 years while the infrastructure has decayed is an indication that the local users have a desire to use the BDI airport instead of the Douglas or Bisbee Municipal Airports (this has been expressed at the PAC and public meetings). This is an indication of *local* growth potential in a declining *region*, thus the reference to an increased market share at BDI.

We believe that real growth at BDI will only occur when the infrastructure is repaired/upgraded and the County aggressively markets the facility.

3. Qualification of Results There is a typographical error in the referenced section (Qualification of Results). You are correct that the 16% fuel sales figure should read 1.6%. We will correct this in the next distribution.

It was not our intent to suggest that the increase from 3,285 operations to 25,650 operations would happen in one year. We have presented two separate estimates of current activity - one in the airport's present state of disrepair, and a second which presupposes that the facility improvements have been accomplished - a *potential* scenario. Our projections begin with this potential level, which may be reached at some point after the initial improvements are made. Page 3-17 indicates that the "jump" in activity is actually spread over the 1997-2000 period:

"In the forecasts, it has been assumed that the current condition of the BDI facilities is a major factor in the existing low utilization of the airport. The planned improvement of runways, lighting, buildings, maintenance and services in the short term will, it is assumed, cause an immediate increase in the level of activity at the airport. This will include an increase in the number of based aircraft, as well as in operations by both based and transient aircraft. This "jump" in activity in the short term has been modeled by assuming that the number of based aircraft at BDI will increase to 1/3 of the current total number of registered aircraft at the three key public-ownership/public-use airports in the service area (30) by the year 2000."

The projections are strongly qualified on Page 3-20, as follows:

"It is important to emphasize that the forecasts represent the probable maximum level of activity at BDI. In order for this level to be realized, the Cochise County Board of Supervisors must commit adequate staff and budget

resources to not only improve and upgrade the airport infrastructure, but to also launch an aggressive marketing plan aimed at attracting a qualified Fixed Base Operator, as well as aviation-related business enterprises which will benefit from the unique attributes of the BDI Airport siting opportunities, climate, and location."

It is apparent that if the County chooses not to fund improvements at BDI the airport's condition will continue to decline to the point that it will not be usable within a fairly short time. Although it is presently designated as active, Runway 8-26 is really only suitable as an emergency landing strip. Our recommendation will be to close it until rehabilitation can be accomplished. Runway 17-35 may last another five to seven years with no pavement maintenance. However, its serving taxiway system is in very poor condition and will become unusable in a relatively short time. It is probably a fair assumption that the BDI airport would become unusable some time within the next ten years with no improvements.

We believe that is essential to provide improvement funding on a priority basis if the BDI airport is to continue to function.

As you know, the BDI airport is in an area which is being affected by NAFTA. Even though the facilities at BDI are in poor condition, an increase in business jet activity by *maquilladora* companies is already in evidence. Demand by business aircraft could increase dramatically as these companies gear up. It is entirely possible that BDI could become the leading regional airport serving business aircraft, with a substantial increase in activity. This is already occurring at Nogales, which has seen a fourfold increase in activity since 1993.

Thank you for your input on our work to date. Please let us know if you will require changes in the Forecasts section as soon as possible. We are proceeding with the Facility Requirements and Alternatives sections of the study. These will be presented to the PAC on March 20th.

Sincerely,
NICHOLAS J. PELA & ASSOCIATES

Nicholas J. Pela
Principal Planner

c: *Ron Schreier, Gannett Fleming, Inc.*
Linda Small, Cochise County PAC

Gannett Fleming
ENGINEERS AND PLANNERS

GANNETT FLEMING, INC.
Suite 130
3001 East Camelback Road
Phoenix, AZ 85016-4498
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Meeting Minutes
P.A.C. Meeting No. 3
for
Bisbee-Douglas International Airport
Master Plan
GF Job No. 31268

Thursday, April 3, 1997
Cochise County Complex
Bisbee, Arizona

Attendees:

Linda M. Small, Cochise County Economic and Community Development
Bayer Vella, Cochise County Planning and Zoning
Daryl Elam, PAC
Ray Boucher, ADOT-Aeronautics
Bruce N. Springer, Cochise County Facilities Management
Nick Pela, Nicholas J. Pela and Associates
Ron Schreier, Gannett Fleming, Inc.

Minutes Prepared By: Ron Schreier RPS

Note: The Planning Advisory Committee did not have a quorum for the meeting. It was decided that Linda Small would telephone those members who were absent in order to find out if they have read the last set of materials (Sections 6 and 7) that were sent out by the consultants. These materials should be reviewed prior to selecting a development alternative that will form the basis of the Development Plan. If PAC members have questions about the material, they are encouraged to telephone Ron Schreier (602-553-8817) or Nick Pela (602-404-3768) as soon as possible. Linda Small will send a ballot to each PAC member to cast a vote for the preferred alternative. The ballots will be due to Linda Small by Thursday April 17.

PAC members will also be asked on the ballot to approve/adopt the following items: The Meeting Minutes of PAC Meeting No. 2 and the Sections (Four and Five) presented at PAC Meeting No. 2.

The order of items discussed at the meeting generally followed the list of items on the attached agenda. The following are the major points of discussion.

1. **Review and Approve Minutes of PAC Meeting No. 2:** Minutes were not approved; refer to the bold note above.

2. **Approve Working Paper No. 3:** Working Paper No. 3 was not approved; refer to the bold note above.

3. **Approve Working Paper No. 4:** Working Paper No. 4 was not approved; refer to the bold note above.

4. **Miscellaneous Inserts:**

Schreier noted that in the last mailing there were three new inserts for previously completed sections. The first one included new pages 1-10 and 1-11 which was an expanded discussion of Department of Corrections impacts on airport land use restrictions. The second insert included pages 2-21 through 2-23 which describes the results of the wind analysis.

Question: It seems that on page 2-23 the percentage of dual runway combination 17-35 and 3-21 (over 16 knots) should be higher than 91.49% due to the influence of the coverage provided by runway 3-21.

Response: This percentage is the output given by the FAA program. We will check the output given.

Schreier said the third insert (page 3-20) involved changing a typographical error.

5. **Discuss Working Paper No. 5 - Facility Requirements:**

Pela summarized Section 6 - Facility Requirements. He said BDI airport is superior to either of the two nearest competing airports (Bisbee and Douglas Municipal) for a variety of reasons as described on pages 6-1 to 6-4. These include geographic location, existing and potential airspace, land use conflicts, potential for noise impacts, instrument approach capability, and general development potential.

BDI Airport has a unique history with a good potential for obtaining funds for historic preservation. It is recommended that four hangars be restored to their World War II configuration and that the Terminal Building be restored to its 1950's airline terminal configuration. (Page 6-5)

Pela said that the facility requirements are extensive and are broken down into three categories: Immediate Requirements, Short-Term Requirements, and Ultimate Requirements. These are listed and discussed on pages 6-8 to 6-33.

Statement: While there appears to be good wind data, is there also long-term information on visibility at the airport? It may be that the establishment of a precision instrument approach is less of a priority than the establishment of a non-precision approach.

Section 6 also includes a discussion of potential "niche markets" for the airport. These include: a Regional Business Aviation Center; an Auxiliary General Aviation/Military Training Center; an Historic and Southeastern Arizona Sport Aviation Center; and a Cochise County Airport Industrial Park. These different uses do not conflict with one another. In order to create an industrial or business park the County may need to get a release from the FAA for non-aviation use.

Question: There are two buildings southeast of the cannery that were not mentioned in the analysis. Where do these fit in?

Response: These are within the Department of Corrections lease area and were thus not considered part of the airport.

6. Discuss Working Paper 6- Development Alternatives:

Schreier said six alternative runway and taxiway configurations were studied and evaluated on the basis of several key factors, including: Obstructions to Air Navigation; Relative Wind Coverage (Primary Runway); Relative Wind Coverage (Crosswind Runway); Initial Development Costs; Ultimate Development Costs; and Instrument Approaches. Based on this initial evaluation analysis Alternative #2 (Primary Runway 17-35 with Crosswind Runway 3-21) received the most favorable ranking; Alternative #3 (Primary RWY 3-21 with Xwind RWY 17-35) tied with Alternative #1 (Primary RWY 17-35 with Xwind RWY 8-26) for second place; Alternative #6 (Primary RWY 3-21 with Xwind RWY 12-30 received third ranking; Alternative #5 (Primary RWY 17-35 with Xwind 12-30) received fourth ranking; and Alternative #4 (Primary RWY 12-30 with Xwind RWY 17-35) received fifth ranking.

A second tier analysis was done of the top three alternatives from the initial evaluation. This second tier evaluation was based on: Initial Phase Development Expense; Possible Environmental Impacts; the ability to have an Active Runway During Initial Phase Construction; the ability to have a Two-Runway System in the Initial Phase; High Wind Coverage; and High-Wind Coverage in the Initial Phase. In this evaluation, Alternative #3 ranked first, #2 ranked second, and #1 ranked third.

Question: In the alternatives, there is no mention of using Taxiway T-1 at the south end of the airfield, which is an existing taxiway, yet there is a partial new parallel taxiway proposed. Why?

Response: We looked at reducing the amount of pavement that would need to be reconstructed and/or maintained and tried to come up with an efficient taxiway system. It is possible that the renovation of Taxiway "One" would be cheaper, although it is longer, than the construction of the partial parallel. We will consider the inclusion of Taxiway "One" in the development plan.

Question: For all of the alternatives a full parallel taxiway is not shown for the primary runway. This should be considered. At the very least an analysis should be done as to the difference in cost between using the renovated existing Portland Cement Concrete Apron as a taxiway, as proposed, versus constructing a full parallel taxiway for the selected primary runway.

Response: The programming of a full parallel taxiway will be considered. Again, in the interest of using existing pavements and in reducing the amount of pavement that needs to be maintained, the PCC Apron (which is only 75 feet wide) was proposed as a taxiway.

Statement: The use of the PCC Apron as a taxiway will not allow for aircraft to be parked in front of potential hangar/business locations north of the immediate terminal area.

Statement: You may not have justification in the Master Plan for a MALSR. There is not enough information given on the IFR weather at the airport. You would need to justify the MALSR with more data. The airport could use REILS (Runway End Identifier Lights), which are cheaper, instead.

Statement: Emphasize a GPS (Global Positioning System) instead of an ILS (Instrument Landing System). The FAA will not fund an ILS. GPS is the predominant technology that will be used.

Statement: The Runway Protection Zone on the south end of Runway 17-35 will require an easement or fee purchase from a private landowner. If an alternative involving Runway 17-35 is selected, then the Runway should be moved north so that the runway and its protection zones are within airport property and easement or land purchase will not be required.

Statement: When the Master Plan is adopted, ADOT will recommend that the County adopt the land use plan in the Master Plan.

There was a general discussion regarding the desire to keep as much land available for development as possible. RPZ's can be crossed by access roads, but runways and taxiways cannot. Some alternatives were viewed as possibly "landlocking" portions of airport property.

Statement: The Master Plan should indicate whether the refurbished hangars will be used as hangar space and thus counted as a credit against the hangar space required. The hangar space needed for future development would thus be the difference between the space calculated as being "required" and the space provided by the refurbished hangars.

Statement: Ray Boucher of ADOT-Aeronautics said that the first five years of the Master Plan's Development Plan should contain projects the Airport Sponsor is committed to completing and has the resources to insure they can be completed during that time frame.

7. Next Meeting:

The next meeting of the PAC will be at BDI Airport at 1:30 p.m. on Thursday June 5, 1997. There will be a public hearing at BDI Airport on the same day at 6 p.m.

The final meeting of the PAC will be combined with a public meeting at the County Complex in Bisbee on June 30 at 1:30 p.m.

The minutes are intended to be a summary of the relevant items of discussion. If any of the statements are incorrect or if key items were omitted, please contact Ron Schreier at Gannett Fleming (602) 553-8817.

Copies to: All on the distribution list.

Gannett Fleming

BISBEE-DOUGLAS INTERNATIONAL AIRPORT
MASTER PLAN
PLANNING ADVISORY COMMITTEE (PAC) MEETING NO. 3
GANNETT FLEMING JOB NO. 31268
AGENDA

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1. Review and Approve Minutes of PAC Meeting No. 2.

2. Approve Working Paper No. 3.

   A. Section 4: Demand/Capacity Analysis

3. Approve Working Paper No. 4.

   A. Section 5: Standards Compliance

4. Discuss Working Paper No. 5 - Facility Requirements

   A. Facilities Analysis
   B. "Niche" Markets
   C. Building Recommendations
   D. Immediate Need
   E. Short-Term Program
   F. Ultimate-Term Program

5. Discuss Working Paper No. 6 - Development Alternatives

   A. Alternative No. 1
   B. Alternative No. 2
   C. Alternative No. 3
   D. Alternative No. 4
   E. Alternative No. 5
   F. Alternative No. 6

6. Select Alternative

7. Next PAC Meeting

4/3/97

BDI AIRPORT
PAC MEETING #3
ATTENDANCE

NAME	Representing	TEL NO.
Ron Schreier	GANNETT Fleming	602-553-8817
NICK ~~PELA~~	N.V PELA & ASSOC.	602-404-3768
DARYL ELAM	P.A.C. MEMBER	520-805-9030
Bayer Vella	P+Z Department	520-432-9450
Linda M Small	Cochise County	520-432-9454
RE Bowden	ADOT-Aeronautics	602-255-7770
BRUCE N. STRINGER	COCHISE County	520-432-9482

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FYMINGTON
vernor

ITY S. DONINE
Director

GARY ADAMS
Division Director

April 7, 1997

Mr. Bruce Springer, Facilities Manager
Cochise County Facilities Management Department
1415 West Melody Lane, Building C
Bisbee, Arizona 85603

RE: Bisbee-Douglas International Airport Master Plan, Sections 6 and 7

Dear Bruce:

I have reviewed the draft of Sections 6 and 7 and have the following comments to make on these documents:

A. Section VI: Facility Requirements

1. Wind Data Analysis: This particular section is extremely important and should include the statistics for 12 mph wind coverage on each of the runways as well in order to evaluate the runway system from the aspect of the smaller aircraft that also operate at this airport.

2. Comparison of Key Competitive Service Area Airports and Identification Of Specific Niche Markets For BDI: These subjects might have been more appropriate if placed in the Forecast section or Inventory. It doesn't appear to fit in Facility Requirements.

3. Primary Runway Requirements: The Table containing the Runway Length Requirements for several different types of aircraft (Page 6-10) needs to contain the source of this information. This Table needs to identify the criteria used in determining the runway length requirements (temperature, elevation, etc.).

4. Intermediate Requirements (Page 6-11): Review the italicized comment near the end of the section because we don't believe it recognizes the full benefit to be derived from GPS.

5. Instrument Approaches and Navigational Aids: The recommendations for Navaids at this airport need to be justified not on only what the airport could have but on other factors such as the amount of IFR weather at the airport and the amount and type of traffic to utilize the facilities in order to justify the expenditure. Again, there is no treatment in the text thus far about the intention of FAA to phase out many of the existing ground-based Navaids in the country and reduce the number of new installations due to GPS. These factors need to be addressed in the text considered before making these assumptions.

6. Airport Lighting and Miscellaneous Requirements: The Forecast Section does not indicate that commercial service operations are going to be established at this airport during the planning period (although the Section does allude to the possibility). HIRL lighting is normally only required at airports with ILS and commercial service operations and at airports with a high percentage of poor visibility conditions. Additional information in this section and a revised Section 3 is required to justify the installation of HIRL lighting at this airport or even the capability to accommodate it.

7. Aircraft Parking and Storage Requirements: The last paragraph needs some clarification. Where has it been established in the master plan thus far, what the weather conditions are at BDI? AC 150/5070-6A, Airport Master Plans, Ch 4, Section 9, indicates the type of data needed to appropriately assess airfield facilities. Only the wind data has been described.

9. Terminal Building Requirements: As indicated in previous paragraphs, the presence of commercial service aircraft at this airport has not been identified in the Forecasts and, therefore, it is inappropriate to plan for facilities to accommodate this particular element in the terminal building. There are assumptions made in this section without any rationale. There needs to be additional support for the assumptions made in this section. The Forecast Section should be revised to include the potential commercial service operations, the type, and the peaking factors to support the "assumptions" used in this chapter. There are other ramifications of the insertion of commercial service operations at this airport that need to be considered. The number and type of aircraft that will provide this service will be needed to properly demonstrate the future noise contours for land use planning later in the master plan.

10. The inclusion of Figure 6-1 in this Section is somewhat confusing. Is the reader supposed to assume that the Terminal Area Layout has been recommended before the airfield configuration has been selected? It is more appropriate for the airfield and terminal layouts to be addressed in the same Section as they are related to one another.

11. The *Intermediate, Short Term* and *Ultimate* descriptions need to be defined by years earlier in the text than on the tables listing the projects and costs.

B. Section VII: Alternatives Analysis

1. Section 7: The matrix used to determine the ratings of the various alternatives does not appear to address such things as environmental impacts, utility relocation, or additional infrastructure (taxiways, roads, etc,) that may impact the ratings as well. Also, the road relocation costs do not appear to have been factored into the costs of Alternative #4.

2. The parallel taxiway in all of these alternatives is missing, especially for the primary runway. Using the taxiway/apron as depicted to use existing pavement should be an interim procedure and not a long range objective of the airport. It appears the use of existing pavement is also ignored the taxiway furthest to the south (and in good condition), in these alternatives.

3. In Section 7, it appears the factors used in the rating matrix do not provide enough differentiation to make any reasonable decisions. Two of the factors (wind coverage and construction costs make little or no differentiation at all!). It appears there is little here to lead the reader in making any rational choice on which development alternatives to pursue. The factors considered in the matrix should be increased in order that a more reasonable choice is provided to the reader. It would appear more helpful to reduce the alternatives to 2-3 and leave the reader with a lot less analysis to perform.

We are going to be placing more emphasis on the airport's projected Five-Year Airport Development Program in the coming months which may have an impact on the preparation of the remaining sections in the Master Plan. We are going to expect more commitment on the part of the Airport Sponsors to insure that State projects included in each year of the program are completed during the timeframe agreed upon with the Aeronautics Division. This means that the Airport Sponsor must have the resources available to make that happen. The Airport Sponsors resources consist of: administration of: the grant process, the consultant/contractor selection process, the project design (if applicable), the availability of grant matching funds and managing the project construction timetable within the timeframe agreed upon with the Aeronautics Division.

During the development of the master plan's Financial Plan, the first five years should contain projects the Airport Sponsor is committed to completing and has the resources to insure they can be completed during that timeframe. In our review of the draft Financial Plan, we will assume the projects requiring State financial participation have passed the commitment and resources test discussed in the previous paragraph and are acceptable for entry into the Five-Year Airport Development Program.

We would also like to suggest you plan on making the land use noise plan a part of the County's General Plan. In order to perform an adequate land use plan, it is imperative that a noise contour overlay be performed on the airport for the existing and future condition. The consultant, at the last Planning Advisory Committee meeting (April 3, 1997) suggested a noise overlay was not required as a part of the master plan. A review of the contract signed between the County and Gannett-Fleming would reveal that in the Statement of Need 1.1, the consultant agreed to prepare the plan and accomplish it "...in a manner consistent with Cochise County's needs and in conformation with all appropriate FAA Advisory Circulars and the guidance of the FAA Master Plan Checklist". I will be glad to point out where the noise overlay map is recommended in the FAA Advisory Circulars if the consultant so desires.

I'm sorry I didn't get a chance to meet you at the last PAC meeting but I want to thank you for providing our department with the draft of Chapters 6 and 7. If you have any further questions, please do not hesitate to call.

Sincerely,

Ray Boucher
Aviation Program Analyst

cc: Ronald D. Schreier, Vice -President, GANNETT FLEMING, INC.
Cochise County Office of Economic & Community Development (Linda M. Small)

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1422 Second Avenue
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NICHOLAS J. PELA & ASSOCIATES

Mr. Ray Boucher, Aviation Program Analyst
Arizona Department of Transportation
Aeronautics Division
PO Box 13588, Mail Drop 426M
Phoenix, AZ 85002-3588

April 10, 1997

RE: Bisbee-Douglas International Airport
NJP #BDI.0001 / GF #31268

Dear Ray:

The following are responses and comments regarding your review of the BDI Master Plan Facility Requirements and Alternatives Analysis sections. Your last comment, regarding inclusion of an INM noise analysis, has been addressed in a separate letter.

Section 6 (and related information):

Comment 1: As requested, we will add wind analysis for the 12 mph (10.5 knots), in order to include assessment of crosswind coverage for smaller aircraft (ARC A-I and B-I).

Comment 2: The discussion of niche markets and comparisons of the competing airports seems to fit best as an introduction to the Facility Requirements section. If there were any special requirements for implementation of any of the recommended niche markets, they could have been explained. We don't see a reason to change the document layout at this point.

Comment 3: As requested, we will add the source reference to the aircraft performance table, as well as noting the conditions.

Comment 4: The current FAA design criteria for a "precision" approach (an approach to "less than 3/4 mile visibility") does not differentiate between the ILS, Differential Global Positioning System (DGPS), or Transponder Landing System (TLS) installations. The note on page 6-11 is included as a reminder to the design engineers to consider clearing and separation standards for the "precision" approach when designing any runway improvements. Due to the frequency by which state-of-the-art technology changes, the decision to install an ILS, DGPS, or TLS, or some other state-of-the-art "precision" system in the future can't be made at this time. We can only do our best to conform to the design criteria to allow for the possibility of any of these. However, we can and will include a brief discussion about FAA's current disposition toward ILS and GPS. We don't want to negate a future ILS/DGPS/TLS installation by not allowing for the possibility in initial and future design/construction efforts.

Comment 5: At the present time there is no justification to improve even the current "nonprecision" approach. We doubt that the present approach could be justified in terms of actual occurrence of IFR weather conditions and number of operations. We plan for some type of ultimate instrument approach at every primary airfield, whenever possible. Initial costs are not affected by this far-sighted approach, and visual operational safety is enhanced by conforming to the more stringent separation requirements. The only significant costs associated with a precision approach installation will be the MALSR array (about $200,000). A standard ILS installation is a multi-million dollar investment, but the cost of DGPS transmitter equipment should be relatively insignificant as usage becomes widespread. A basic TLS installation will cost about $500,000.

Comment 6: High Intensity Runway Lighting (HIRL) may be overkill for this airport, when prevailing weather conditions are considered. We will revise the narrative and schedules to reflect ultimate only MIRL installations.

Comment 7: The paragraph in question makes the assumption that airplane owners will want to store their aircraft in hangars because of "the sometimes severe summer weather experienced in southeastern Arizona". We don't think this has to be proven in the Master Plan. The fact is that the temperatures are apt to reach over 100° F in the summer at BDI, and that long exposure to sunshine and excessive heat is detrimental to aircraft radios, upholstery and paint. We are only recommending that the County set aside land to accommodate private hangar development, or to allow County development as driven by actual hangar demand. We believe we would be remiss in excluding potential hangar development, especially in light of the current hangar demand at the Cochise County Airport in Willcox.

If you wish, we will add a summary narrative in the Inventory describing the weather conditions at BDI.

Comment 8: (missing from your letter)

Comment 9: There has been no specific projection of potential airline use of BDI in this Master Plan, because it was not an issue identified by the owner as significant, and was not included in the scope. There is a possibility that airline service could return to BDI in the future, if the area economy continues to improve. We wanted to be sure that some planning guidance was included regarding the Terminal Building even though a specific market analysis was not performed to identify potential use. The Terminal may be used to accommodate airline service, or it may not. We tried to evaluate the building's usefulness considering any reasonable possibility. We believe that a reasonable assumption is that the maximum activity could consist of two daily flights by a smaller aircraft (Beech 1900) on a two- or three-stop routing. The runway, taxiway and apron recommendations would certainly accommodate this type of activity. We wanted to be sure that the Terminal Building was not the only bottleneck in a potentially viable commuter airline destination.

Comment 10: The Facility Requirements section was completed before the ALP. Figure 6-1 was included to provide a clear picture of what the narrative was describing. We knew that the terminal area layout would be generally the same for any of the runway development alternates and wanted to give the PAC a head start on reviewing the terminal area recommendations.

Comment 11: We will revise the page 6-8 narrative to better define the Intermediate, Short, and Ultimate Term by including planning years.

Section 7: Alternatives Analysis:

Comment 1: Since your initial review, we have done additional work on the matrix analysis. This information was presented at the Public Meeting, to the Board of Supervisors, and the last PAC Meeting. We have reduced the viable alternatives to three (Alternatives 1, 2 and 3) and also considered the potential impacts of the abandoned dump site. The PAC is considering the alternatives as presented and will return a decision by April 17th.

Comment 2: As requested, we will add a full parallel taxiway to the ALP drawings, as an ultimate term recommendation. Taxiway T-1 will also be considered for future use as a connector taxiway, depending on which alternative is selected by the PAC.

Comment 3: The PAC and Board of Supervisors don't seem to have a problem with the matrix logic and ratings. We have not received any requests for clarification as they proceed with their decision-making process.

We appreciate the information regarding changes in the ADOT requirements for the Five-Year Airport Development Program. We will work with the County to assure the required sponsor commitments when developing the financial plan.

Thank you for your comments. The revisions noted above will be included in the next PAC distribution.

If you need to contact me, please note that I will be in my Wisconsin office for at least the next couple of weeks (phone/Fax numbers on letterhead).

Sincerely,

NICHOLAS J. PELA & ASSOCIATES

Nicholas J. Pela
Principal Planner

GANNETT FLEMING, INC.

Ronald D. Schreier, P.E.
Project Manager

c: Linda Small, Cochise County
Bruce Springer, Cochise County

TO: Linda Small
FROM: Barbara Highfield
SUBJECT: BDI Master Plan Telephone Survey
DATE: 4-17-97

I contacted the Planning Advisory Committee (PAC) members asking for the following input:
1) Review and approval of minutes from PAC Meeting No. 2
2) Approval and adoption of Sections 4 & 5 presented at PACA Meeting No. 2
3) Questions or comments regarding Sections 6 & 7
4) Choice of Alternative 1, 2, or 3 from Sections 6 & 7

Phil Atlas
Will call back later.

Daryl Elam
Approved minutes and Sections 4 &5. Preference on alternatives is #3 because runway 3-21 should be the primary runway for normal winds. Likes portions of alternative #2. Likes moving runway 17-35 to the north but has concern that when runway was moved in drawing, cross-hatch was not moved north as well and should have been.

Dave Guy
Approved minutes and Sections 4 & 5. Chose Alternative #2 but not completely satisfied. No alternative provides for long enough runway or strong enough surface for heavy airfrieght carriers. Calls for runway for 60,000 lb. aircraft and should be heavier. Will discuss at next meeting.

Richard Hlavenka
Approved minutes and Sections 4 & 5. Chose Alternative #3.

Michael Ortega
Approved the minutes and Sections 4 & 5. Chose Alternative #3. Memo is attached with an explanation as well as some concerns from Art Macias.

BDI.mem

THE CITY OF DOUGLAS

425 TENTH STREET, DOUGLAS, ARIZONA 85607

TELEPHONE (520)364-7501
FAX (520)364-7507

Community and Economic Development Department

April 17, 1997

Ms. Linda Small, Director
Economic and Community Development
1415 W. Melody Lane, Building B
Bisbee, AZ 85603

Dear Ms. Small:

The opinion is based on the objective of optimum aeronautical usage and safety. Other factors such as economic viability and runway construction costs are not considered. Never the less, aeronautical usage and safety is considered a major factor.

The prevailing wind for the area is from the south-west, *note:* Douglas Municipal (DGL), Cochise College (P03), Bisbee/Douglas (DUG), Nogales (OLS), Cochise County (WLX) and Tribal Air. Thus, runway 21 is the obvious choice for DUG (Bisbee/Douglas). Secondary winds are usually from the southerly direction, thus runway 17 could be used as a cross wind strip for 21, also confirmed by the airports noted above.

Further, 17 would be ideal for any precision instrument approach at DUG apart from possible toxic wastes buried in the threshold area. It currently has a VOR non-precision approach operating. While a precision approach would be a little tighter on runway 21 than on runway 17, it can be constructed within limits. However, because of the excellent weather in the area, actual instrument approaches are a rarity, perhaps once or twice a year for a given individual. In fact this could be an argument for not even requiring a precision instrument approach system. The cost/usage ratio would be way out of proportion if one was installed.

Opinion:

Alternative #3 is a good choice, that is, 21-03 the primary runway with runway 17-35 the secondary strip.

Sincerely,

Art Macias Jr.
J. Art Macias, Jr., Director

c:\docs\small.let

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FIFE SYMINGTON
Governor

LARRY S. BOWNE
Director

GARY ADAMS
Division Director

May 30, 1997

Mr. Bruce Springer, Facilities Manager
Cochise County Facilities Management Department
1415 West Melody Lane, Building C
Bisbee, Arizona 85603

RE: Bisbee-Douglas International Airport Airport Layout Plan

Dear Bruce:

We have reviewed the draft Airport Layout Plan and have made comments which are enclosed in this letter. If you have any further questions, please do not hesitate to call.

Sincerely,

Ray Boucher
Aviation Program Analyst

Enclosure

cc: Ronald D. Schreier, Vice -President, GANNETT FLEMING, INC.
cc: Linda M. Small, Cochise County Office of Economic & Community Development

AIRPORT LAYOUT PLAN - REVIEW

ITEM	REMARKS
1. NORTH ARROW	No Rate of Change Indicated
2. WIND ROSE	No MPH indicated and Rwy 8-26 is not depicted on the Wind Rose nor included in the wind coverage analysis. This runway has not been abandoned yet and needs to be on the wind rose. Combined coverage block is missing the 12 knot calculations
3. TOPOGRAPHIC INFO	Contours are 20' apart not 10' or less. Also the source of the contour data is not indicated anywhere on the ALP and should be.
4. NAD-83	The geodetic plane of the coordinates is not indicated on the ALP
5. LINES	A. Future Property Line needs a different line code than existing P/L B. Leased Area should be designated with a different line style or light shade/feather code C. BRL missing on Rwy 8-26 D. Put new line codes in Legend
6. RUNWAY DRWNG DETAILS	A. End of Rwy 35 is poorly identified on blueline B. Future end #'s are poorly defined on Drawing C. Future Precision Approach markings poorly defined on drawing D. Rwy 3-21 has future MIRL. Not indicated. E. MIRL code (future/existing) not indicated in legend F. Localizer and Glideslope critical areas not indicated. G. PAPI/VASI, future and existing not shown or line quality too poor to observe
7. TITLE & REVISION BLKS	FAA Disclaimer not indicated. If you want their approval you need it.
8. AIRPORT DATA BLK	A. ALP indicates highest Rwy elevation as 4158. Data Blk indicates 4151.3 B. Airport Beacon not clearly defined on ALP. O.K. on TAP

9. RUNWAY DATA BLK	A. The data blk does not properly identify the appropriate approach to each of the runway ends. 3-21 future should read prec/nonprec (or P/NP), etc for each of the runways both existing and future.
10. MISCELLANEOUS	A. Vicinity Map: Not in accordance with AC150/5070-6A, para 2a(3). Needs roads, railroads, etc, not airspace symbols.
	B. NOTES: #6 - typo UlL should be ALL.
11. OTHER	A. New change to (Change 5) to 5300-13 indicates that the Runway holdlines should be depicted on all taxiways leading to the runway(s). All C-II runways require 250' hold lines. See AC150/5340-1G.
	B. FAA Western Region and the State require a "*DEVIATIONS FROM STANDARDS*" block on the ALP (or data sheet). This block should indicate the Deviation, Required Standard, and Disposition where a recommendation is given on how to correct the deficiency. Deviations from standards include runway/taxiway dimensions and separations that are not in conformance with 5300-13/Part 77 or other FAA guidelines, as well as any obstructions in the Part 77 airspace imaginary surfaces. The latter are normally included on the appropriate Airspace Drawing.

Gannett Fleming

Meeting Minutes
PAC Meeting No. 4
for
Bisbee-Douglas International Airport
Master Plan
GF Job No. 31268

Thursday, June 5, 1997
Bisbee-Douglas International Airport
Douglas, AZ

Attendees:

Linda M. Small, Cochise County Economic and Community Development
Gary Pursell, Cochise County Facilities Management
Bruce Springer, Cochise County Facilities Management
Bud Huston, PAC (City of Douglas)
Sam Place, PAC
Bayer Vella, Cochise County Planning and Zoning
Dave Guy, PAC
Daryl Elam, PAC
Robert Blocher, PAC
Andy Couchoud
Richard Hlavenka, PAC
Ron Schreier, Gannett Fleming
Nick Pela, Nicholas J. Pela & Associates

Minutes Prepared By: Ron Schreier

The order of items discussed at the meeting generally followed the list of items on the attached agenda. The following are the major points of discussion.

1. Review and approve minutes of PAC Meetings No. 2 and No. 3: Minutes were approved as is.

2. Approve Working Paper No.3 (Section 4: Demand/Capacity Analysis): Section 4 was approved as is.

3. Approve Working Paper No. 4 (Section 5: Standards Compliance): Section 5 was approved as is.

4. Approve Working Paper No. 5 - Facility Requirements:

Bayer Vella asked if Runway 17-35 was shifted north to avoid the Runway Protection Zone being over private property. It was.

Linda Small asked that the Industrial Park Section (p. 6-7) be expanded to include the maquiladoras. The planning team will add more text which Linda can review and edit as needed.

Bob Blocher asked if a financial analysis will be done. Ron Schreier said no, it's not in our contract with the County. Linda Small added that the County did not want a financial analysis done at this time.

Bayer Vella said that a reference to the County's parking standards and zoning regulations should be included in the text (he provided a copy). A reference to the zoning regulations will be helpful to any developer/manufacturer that wants to lease space on the airport. The planning team will include this reference. Bayer said that his department has recommended that the access road to the airport be widened to 38 feet. This widening will be added to the development program. It was also recommended that truck traffic which would go to the Industrial Park have a bypass around the terminal parking area, thus separating truck traffic from auto traffic. The planning team will add this feature.

Working Paper No. 5 - Facility Requirements was accepted with the proposed changes noted above.

5. Approve Working Paper No. 6 - Development Alternatives

Dave Guy asked about the ability of the runways as proposed to support the weight of cargo aircraft or heavier aircraft in general, and whether the runway length is adequate. Nick Pela said that we are working with two different criteria - one for runway length and one for load weight. Runway length is largely based on the approach speed of a design/critical aircraft, which may not represent the heaviest expected load. The heaviest expected aircraft may not have the fastest approach speed. These are not typically the same aircraft, so a balance is struck wherein the expected needs of the airport owner are met. Assumptions have been made about what the design aircraft should be. Unless we have documented operations by aircraft type we don't know what the critical aircraft is. If you are talking about the possibility of having cargo aircraft (e.g. Federal Express) use the airport, we are taking about a different kind of plan than what we currently have.

Ron asked if the Department of Corrections should receive a copy of the draft Final Master Plan for review. They will be sent a copy. Linda Small is to provide the name of the contact.

Bayer asked whether it would be prudent to have a taxiway planned to serve the industrial areas. Nick said we can include in the plan, but it will probably not be an item eligible for FAA and/or ADOT funds.

Working Paper No. 6 - Development Alternatives was accepted with the proposed change noted above.

6. Discuss Working Paper No. 7 (Chapter 8 - Environmental Factors):

Ron said this is a new section which everyone should have received in their package. He explained the three federal actions when federal dollars are involved in a project: Categorical Exclusions; Actions requiring an Environmental Assessment (EA); and Action requiring an Environmental Impact Statement. He noted that some of the agencies with which he corresponded did send response letters. We are waiting for other letters. This section is not final, but thus far we have noted that the concerns are for: Cultural and Historic Resources; Air Quality; Water Quality; and Construction Impacts. There is a concern for Wildlife that occupies the buildings which may be demolished or renovated. Even if these animals are not endangered or threatened they should be carefully relocated. Linda Small said Arizona Game and Fish Department would be able to help.

Ron said there is a misstatement on page 8-13: "All of the projects proposed for Bisbee-Douglas International Airport are categorically excluded from requiring the preparation of and Environmental Assessment." This is incorrect. There are two instances where an Environmental Assessment would be required. These are in the immediate term with the (re) construction of abandoned Runway 3-21 and in the ultimate term with the extension of Runway 17-35. This section of the Master Plan text will be revised accordingly.

Nick Pela explained the Integrated Noise Model (INM) computer analysis that was performed for the proposed runway configuration. The Ldn is a measure of decibel level on the ground with various weighting factors. The end result is a set of noise contours with the 65 Ldn being the most critical in terms of residential areas. Inside the line there is significant exposure. Outside the contour line there is no significant exposure. The analysis showed that the 65 Ldn noise contour for the ultimate forecast of operations is contained within the airport property except for a small area at Highway 191 off Runway 35. The analysis included a plot of the 55 Ldn in accordance with ADOT-Aeronautic's request.

Ron asked whether we should contact the E.P.A. about the "dump" north of Runway 17-35. Bayer said there is correspondence in the file from a previous E.P.A. inspection that could be provided.

It was agreed that voting to approve this Working Paper No. 7 be postponed until more correspondence is received and the section is completed.

7. Discuss Working Paper No. 8 - Airport Layout Plans

Nick explained the information that is in the Airport Layout Plans. Among the significant points made are:

- A partial parallel taxiway for Runway 3-21 was added at ADOT-Aeronautic's request. The taxiway is partial due to cost.

- The MALSR has been moved to Runway 3 due to discovery of an obstruction (Bald Mountain) on Runway 21.

  Daryl Elam said that the plans still use the existing concrete apron as a taxiway and that there is no designated place where he can park aircraft near his hangar. The planning team will look at creating a parking area.

Nick explained the phasing of the development plan (pages 9-4, 9-5, 9-6 in workbook).

Nick said that FAA form 74-60 will need to be completed whenever a building on the airport is constructed or modified.

Daryl said there are concrete slabs on the airport (landside) that can be used for mobile homes for recreational use. There are existing utilities for hookups. The planning team will add a recreational/camping area.

Linda asked if we need to add obstruction lights to the power poles. Nick said the poles are below the approach surface.

Voting to approve the Airport Plans will occur after the revisions are made for the draft final document.

8. Draft Final Report

A copy of the draft Final Report will be sent to the PAC members, County Officials, ADOT-Aeronautics, the FAA and the Department of Corrections.

9. Other Products

The team will produce an Executive Summary which will be included in the draft Final Report.

Nick showed the group a prototype of the "marketing brochure" and submitted it to Linda Small for comment.

Ron said information on grants for historic preservation is still being collected and confirmed and that the write-up for this will be separate from the Master Plan.

10. Next Meeting

The next meeting will be a joint PAC and Public meeting on July 8, 1997 at 10:00 a.m. in the Board of Supervisors Meeting Room.

11. The planning team will add a section to the Master Plan which will provide dimensional changes and program upgrade requirements which would need to occur to use the airport, as currently planned, as an air cargo facility.

The minutes are intended to be a summary of the relevant items of discussion. If any of the statements are incorrect or if key items were omitted, please contact Ron Schreier at Gannett Fleming (602) 553-8817.

Copies to: All on the distribution list.

Gannett Fleming

BISBEE-DOUGLAS INTERNATIONAL AIRPORT
MASTER PLAN
PLANNING ADVISORY COMMITTEE (PAC) MEETING NO. 4
GANNETT FLEMING JOB NO. 31268
AGENDA

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1. Review and Approve Minutes of PAC Meetings No. 2 and No. 3.

2. Approve Working Paper No. 3.

   A. Section 4: Demand/Capacity Analysis

3. Approve Working Paper No. 4.

   A. Section 5: Standards Compliance

4. Approve Working Paper No. 5 - Facility Requirements

5. Approve Working Paper No. 6 - Development Alternatives

6. Discuss Working Paper No. 7 - Environmental Factors

7. Discuss Working Paper No. 8 - Airport Layout Plan

8. Submit Draft to FAA and ADOT-Aeronautics

9. Other Products

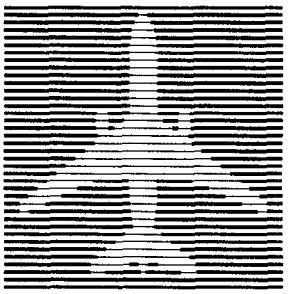
   - Executive Summary
   - Airport Marketing Brochure
   - National Historic Register/Historic Preservation Grants

10. Next Meeting - June 30 (1:30)

PAC #4 6/5/97
BDI MASTER PLAN

ATTENDANCE

NAME	REPRESENTING
Ron Schreier	GANNETT FLEMING
NICK PELA	N.J. PELA & ASSOCIATES
Bayer Vella	PLANNING + ZONING
[illegible] M. Small	Cochise County OTCD
BRUCE N. SPRINGER	Cochise Cty - Facilities Management
[illegible] Pursell	Cochise County Facilities Mngt
[illegible] S. [illegible]	PLANNING ADVISORY
[illegible] Houston	DOUGLAS CITY
ROBERT BLOCHER	BLOCHER ORCHARDS - ELFRIDA
Andy [illegible]	
Dave [illegible]	P + Z Commission



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NICHOLAS J. PELA & ASSOCIATES

June 20, 1997

Mr. Ray Boucher, Aviation Program Analyst
Arizona Department of Transportation
Aeronautics Division
PO Box 586, Mail Drop 426M
Phoenix, AZ 85002-3007

RE: Bisbee-Douglas International Airport
Master Plan and ALP

Dear Mr. Boucher:

The following is a response to your review of the Draft Airport Layout Plan for the referenced project (your letter to Bruce Springer, dated May 30, 1997).

Comment 1: A rate of change for the magnetic declination will be added to each north arrow, per your request.

Comment 2: You commented that "Runway 8-26 is not depicted on the Wind Rose nor included in the wind coverage analysis". Runway 8-26 is indeed included in the wind coverage analysis table on the cover sheet of the ALP. It was not shown graphically on the wind rose to cut down on the drawing clutter. Since our recommendation is that this runway be abandoned immediately, we saw no need to address it beyond the included tabular reference. However, per your request, we will dash in the 16-knot wind coverage boundary on the Wind Rose.

We are not aware of any requirement to provide 12-knot wind coverage analysis. The critical design aircraft for BDI is ARC C-II. FAA requires analysis for 16-knot coverage for this. You previously requested an additional 10.5-knot analysis (12 mph), which has been included on the ALP and in the Master Plan.

Comment 3: The existing ground contours shown on the ALP were digitized from available USGS quadrangle maps, which include only contours at 20' increments. We believe that the slope of the land is such that this interval is appropriate. Ten-foot contours could be interpolated, but they would not be as reliable as the USGS contours as shown. Per your request, we will add a notation referencing the source of the contours.

Comment 4: The Airport Data Table (on Sheet 1) indicates that all runway end coordinates are NAD 83. Sheet 10 of the ALP provides horizontal and vertical control information in addition to land use information, including the following notation: "All latitude/longitude coordinates shown are 1983 North American Datum (NAD 83)". We will add a note on the Airport Layout Drawing that says the same thing.

Comment 5: Per your request, we will use different line styles to distinguish between the existing and ultimate property lines, as well as the leased area. We will also update the Legend.

The BRL is not shown for Runway 8-26 because it will be abandoned in the initial phase. We will add an "interim" BRL to the drawing.

Comment 6: We must apologize for the quality of the blueline prints that you received. Several of the prints we sent out were a bit too "burned out". Some of the line work is very fine or screened because of the amount of information included on the drawings. We will ensure that the final prints will be more legible.

Regarding the ultimate MIRL on Runway 3-21: The ultimate runway lighting is included in the Runway Data Table, but not shown on the drawing. We will rectify this, and show a symbol in the legend.

Localizer and glideslope critical areas are not shown because the ultimate precision approach will be a DGPS. An ILS is not being considered because of prohibitive costs (the FAA is no longer installing them, as a matter of policy, pending GPS implementation). We will make a notation regarding this on the drawing.

PAPI's are only indicated in the Runway Data Table. We will add them to the final drawing.

Comment 7: FAA disclaimer will be added to the final drawing.

Comment 8: The highest elevation on a currently active runway is 4,151.3' MSL - the east end of Runway 8-26. The north end of abandoned Runway 3-21 is 4,158' MSL. FAA AC 150/5300-13 indicates that the Airport Elevation is "the highest point on an airport's usable runway".

Per your request, we will clarify the rotating beacon symbol on the ALP drawing.

Comment 9: Contrary to your comment, the Runway Data Block does indicate the types of approaches to each runway end. The "Type of Approach" blocks indicate the visibility minimums which are the basis of the AC 150/5300-13 design criteria. The "FAR Part 77 Category" blocks indicate the information you requested (for example, Runway 3-21 is shown as "3=P 21=NP" in the Ultimate use column).

Comment 10: The Vicinity Map on the cover sheet does show highways, cities. etc. We also show the airspace features here as an added reference.

Comment 11: The misspelling of "all" as "ull" will be corrected on the final drawing.

We will add the taxiway hold lines and provide a note indicating their 250' offset, as you requested.

We are aware of the requirement for a "Deviations From Standards" block on the ALP. However, there are no deviations from FAA standards, and no obstructions to FAR Part 77 surfaces.

We are in the process of making final revisions to the Master Plan and ALP at this time. The final PAC meeting is scheduled for July 8, 1997. In order to expedite completion of this project, please contact me directly at (602) 404-3768, or Fax to our network at (715) 822-5697 if you have any further comments.

Sincerely,
NICHOLAS J. PELA & ASSOCIATES

Nicholas J. Pela
Principal

c: Ron Schreier, Gannett Fleming, Inc,
Bruce Springer, Cochise County
Linda Small, Cochise County

Bisbee-Douglas International Airport
Additional Improvements for Utilization as an Air Freight Hub

Section 3 of the Master Plan (Forecasts of Aviation Activity) determined that the ultimate critical aircraft that may use the BDI Airport in the future is typified by an ARC (Airport Reference Code) C-II turboprop or business jet. The Master Plan focused on design of facilities which would ensure accommodation of these aircraft in the future, and the appropriate FAA standards were applied in the layout and sizing of the recommended improvements. Ultimate pavement design strength for an aircraft with a maximum takeoff weight of 60,000 pounds will accommodate the planned critical aircraft, and this is reflected in the Master Plan.

During PAC review of the draft Airport Layout Plan and completed draft Master Plan, it was suggested that a possible future role for BDI might be that of a major air freight hubbing terminal, with the need for infrastructure to accommodate operations by a company such as Federal Express or UPS. If this were to occur, a major revision of the current planning documents would be required, focusing on accommodation of larger jet transport freighters in the ARC C-III, C-IV, D-II, D-III, and D-IV categories. These include various models of the Boeing 767, 757 and 737, the Douglas DC-9 series, as well as others. Many of the air freighters currently in use operate at takeoff weights of over 300,000 pounds, much greater than the 60,000 pound design weight considered in the Master Plan.

A listing of aircraft models in the C-II through C-IV and D-II through D-IV categories is included following page 2 of this section. This is output from the ACDATA aircraft database. Approximate runway takeoff lengths are given for most of the aircraft listed, based on an airport elevation of 4,100' MSL at a temperature of 90° Fahrenheit - a Density Altitude of 6,978'. The data suggests that a runway length of between 12,000 and 15,000 feet would be required to serve the heaviest of these aircraft. Some of the lighter types could be accommodated by the proposed ultimate runway length of 8,700 feet. The actual aircraft to be used would be dictated by the air freight company, and design would be based on this actual critical aircraft.

In addition to the possibility of a major runway extension and the certainty of a structural upgrade of runway and taxiway pavements, several other changes in the airfield design and dimensional criteria would apply. The table on the following page lists a comparison between the current ARC C-II design criteria and potential upgrades to serve larger aircraft. In the table, only the criteria which would affect development at BDI have been listed.

A complete update of the Airport Master Plan and Airport Layout Plan, as well as a comprehensive Environmental Assessment would be necessary if this type of potential development should become a reality in the future.

COMPARISON OF DESIGN CRITERIA FOR BISBEE-DOUGLAS INTERNATIONAL AIRPORT

Design Element	*(Provided)* ARC C-II	*(Standard)* ARC C-II	ARC C-III	ARC C-IV	ARC D-II	ARC D-III	ARC D-IV
Runway CL to Taxiway CL	500'	300'	400'	400'	300'	400'	400'
with Instrument Approach > ¾ mile	500'	400'	400'	400'	400'	400'	400'
Runway Pavement Width	100'	100'	150'	150'	100'	150'	150'
Taxiway CL to Fixed/Movable Object	65.5'	65.5'	93'	129.5'	65.5'	93'	129.5'
Taxiway Pavement Width	35'	35'	50'	75'	35'	50'	75'
Taxiway Safety Area Width	79'	79'	118'	171'	79'	118'	171'
Taxiway Object Free Area Width	131'	131'	186'	259'	131'	186'	259'
Radius of Taxiway Turns	75'	75'	100'	150'	75'	100'	150'

Source: FAA AC 150/5300-13

DATABASE LISTING OF FAA ARC C-II THRU C-IV AIRCRAFT
BISBEE-DOUGLAS INTERNATIONAL AIRPORT

P A R A M E T E R S :
DENSITY ALTITUDE : 6978 MSL
GENERAL TYPE CODE : General
U.S CUSTOMARY UNITS : Speed in knots.....Lengths in Feet.....Weight in Pounds

Greater Than:	120.00	48.99	0.00	0.00	0.00	-2.00
& Less Than:	141.00	171.00	500.00	100.00	900000.00	16000.00

Model	AppSpeed	WingSpan	AClength	TailHite	TOweight	RWindex
Airbus A-300	132	147.10	175.90	54.20	429900	----
Airbus A-310	125	144.00	154.90	51.90	288000	----
Boeing 707-300C	136	145.50	152.90	42.20	336000	----
Boeing 707-300C	136	145.50	152.90	42.20	269120	----
Boeing 707-400	132	145.50	152.90	42.20	312000	----
Boeing 727-100 JT8D-7	125	108.00	133.17	34.25	160000	12782
Boeing 727-100 JT8D-7	125	108.00	133.17	34.25	150000	11008
Boeing 727-100 JT8D-7	125	108.00	133.17	34.25	140000	8389
Boeing 727-100 JT8D-7	125	108.00	133.17	34.25	130000	6591
Boeing 727-200 JT8D-7	138	108.00	153.17	34.92	150000	9587
Boeing 727-200 JT8D-7	138	108.00	153.17	34.92	140000	8288
Boeing 737-100 JT8D-7	137	93.00	94.00	37.17	96000	10367
Boeing 737-200 JT8D-9	137	93.00	100.17	37.25	94000	8083
Boeing 737-200 JT8D-15	137	93.00	100.17	37.25	110500	11711
Boeing 737-200 JT8D-17	137	93.00	100.17	37.25	110900	11713
Boeing 737-200 JT8D-17R	137	93.00	100.17	37.25	110000	9081
Boeing 737-200 JT8D-17R	137	93.00	100.17	37.25	118000	12962
Boeing 757-200 211-535C	135	124.83	154.08	45.08	220000	9377
Boeing 757-200 211-535C	135	124.83	154.08	45.08	238000	12961
Boeing 757-200 211-535C	135	124.83	154.08	45.08	240000	13459
Boeing 757-200 211-535E4	135	124.83	154.08	45.08	220000	7982
Boeing 757-200 211-535E4	135	124.83	154.08	45.08	240000	10916
Boeing 757-200 211-535E4	135	124.83	154.08	45.08	255000	15148
Boeing 757-200 -535E4B	135	124.83	154.08	45.08	220000	7980
Boeing 757-200 -535E4B	135	124.83	154.08	45.08	240000	10964
Boeing 757-200 -535E4B	135	124.83	154.08	45.08	255000	14851
Boeing 757-200 PW2037	135	124.83	154.08	45.08	220000	8289
Boeing 757-200 PW2037	135	124.83	154.08	45.08	240000	12168
Boeing 757-200 PW2040	135	124.83	154.08	45.08	220000	7584
Boeing 757-200 PW2040	135	124.83	154.08	45.08	240000	10322
Boeing 757-200 PW2040	135	124.83	154.08	45.08	255000	14209
Boeing 767-200 JT9D	130	156.08	155.00	52.93	280000	6443
Boeing 767-200 JT9D	130	156.08	155.00	52.93	315000	8683
Boeing 767-200 PW4052	130	156.08	155.00	52.93	280000	6444
Boeing 767-200 PW4052	130	156.08	155.00	52.93	315000	8489
Boeing 767-200ER PW4056	130	156.08	155.00	52.93	320000	7692
Boeing 767-200ER PW4056	130	156.08	155.00	52.93	355000	11173

- - - CONTINUED ON FOLLOWING PAGE - - -

Boeing 767-300 CF6-80	130	156.08	180.25	52.58	280000	7541
Boeing 767-300 CF6-80	130	156.08	180.25	52.58	317000	11366
Boeing 767-300 JT9D-7R4	130	156.08	180.25	52.58	280000	7542
Boeing 767-300 JT9D-7R4	130	156.08	180.25	52.58	316000	11267
Boeing 767-300 PW4052	130	156.08	180.25	52.58	280000	6468
Boeing 767-300 PW4052	130	156.08	180.25	52.58	335000	10976
Boeing 767-300ER PW4056	130	156.08	180.25	52.58	320000	7740
Boeing 767-300ER PW4056	130	156.08	180.25	52.58	354000	10587
Boeing 767-300ER PW4060	130	156.08	180.25	52.58	320000	7466
Boeing 767-300ER PW4060	130	156.08	180.25	52.58	358000	10579
Challenger CL-600	134	61.80	68.40	20.70	41100	----
Challenger CL-601	134	64.30	68.40	20.70	42100	----
DC-9-41	129	93.50	125.70	28.60	114000	----
DC-9-11 JT8D-1	134	89.40	104.40	27.60	77750	6839
DC-9-12 JT8D-1	134	89.40	104.40	27.60	79500	7190
DC-9-13 JT8D-1	134	89.40	104.40	27.60	83750	8787
DC-9-14 JT8D-1	134	89.40	104.40	27.60	85750	9287
Gulfstream III	136	77.80	83.10	24.40	69700	7738
Gulfstream III	136	77.80	83.10	24.40	58000	5442
Gulfstream III	136	77.80	83.10	24.40	50000	4193
Lockheed Jetstar	132	54.42	60.42	20.42	42000	10778
Lockheed Jetstar	132	54.42	60.42	20.42	34000	6640
Lockheed Jetstar II	132	54.42	60.42	20.42	44500	4948
Lockheed Jetstar II	132	54.42	60.42	20.42	36000	4748
L1011-100	140	155.33	177.67	55.83	380000	10426
L1011-200	140	155.33	177.67	55.83	440000	11697
L1011-200	140	155.33	177.67	55.83	400000	8589
L1011-600	140	142.67	141.00	53.00	264000	----
Lockheed L-188 Electra	123	99.00	104.58	33.67	110000	9060
Lockheed L-188 Electra	123	99.00	104.58	33.67	95000	4893
Sabreliner NA-265-80	128	50.40	47.20	17.30	19000	6190
Sabreliner NA-265-80A/SC	128	50.40	47.20	17.30	25500	8088
Sabreliner NA-265-80A/SC	128	50.40	47.20	17.30	20000	4869

Database contains 465 entries with 70 matched items.

C R I T I C A L P A R A M E T E R S

Runway Length Index.....	(15148)	Boeing 757-200 211-535E4 @ 255000 #
WingSpan.....	(156.08)	Boeing 767-200 JT9D
Tail Height.....	(55.83)	L1011-100
Aircraft Length.....	(180.25)	Boeing 767-300 CF6-80
Takeoff Weight.....	(440000)	L1011-200
Approach Speed.....	(140)	L1011-100

DATABASE LISTING OF FAA ARC D-II THRU D-IV AIRCRAFT
BISBEE-DOUGLAS INTERNATIONAL AIRPORT

P A R A M E T E R S :
DENSITY ALTITUDE : 6978 MSL
GENERAL TYPE CODE : General
U.S CUSTOMARY UNITS : Speed in knots.....Lengths in Feet.....Weight in Pounds

Greater Than:	140.00	48.99	0.00	0.00	0.00	-2.00
& Less Than:	166.00	171.00	500.00	100.00	900000.00	16000.00

Model	AppSpeed	WingSpan	AClength	TailHite	TOweight	RWindex
Boeing 707-200	145	130.80	145.10	41.70	242000	----
Boeing 707-200	145	130.80	145.10	41.70	248000	----
Convair 880	155	120.00	129.33	36.33	161000	----
Convair 880M	155	120.00	129.33	36.33	170000	----
Convair 990A	156	120.00	139.75	39.50	205000	10358
DC-8-61/71	142	142.42	187.42	43.00	300000	----
Gulfstream II	141	68.80	79.90	24.50	62000	7239
Gulfstream II	141	68.80	79.90	24.50	50000	4892
Gulfstream IV	145	77.80	87.80	24.40	73600	9489
Gulfstream IV	145	77.80	87.80	24.40	65000	6987
Gulfstream IV	145	77.80	87.80	24.40	63000	6489
Gulfstream IV	145	77.80	87.80	24.40	55000	4592
L1011-250	144	155.33	177.67	55.83	496000	----
L1011-500	144	155.33	164.17	55.83	400000	8239
L1011-500-Ext.Wing	148	164.33	164.17	55.83	450000	11078
L1011-500-Ext.Wing	148	164.33	164.17	55.83	450000	11396
L1011-500-Ext.Wing	148	164.33	164.17	55.83	400000	8239

Database contains 465 entries with 17 matched items.

C R I T I C A L P A R A M E T E R S

Runway Length Index.....	(11396)	L1011-500-Ext.Wing	@ 450000 #
WingSpan.....	(164.33)	L1011-500-Ext.Wing	
Tail Height.....	(55.83)	L1011-250	
Aircraft Length.....	(187.42)	DC-8-61/71	
Takeoff Weight.....	(496000)	L1011-250	
Approach Speed.....	(156)	Convair 990A	

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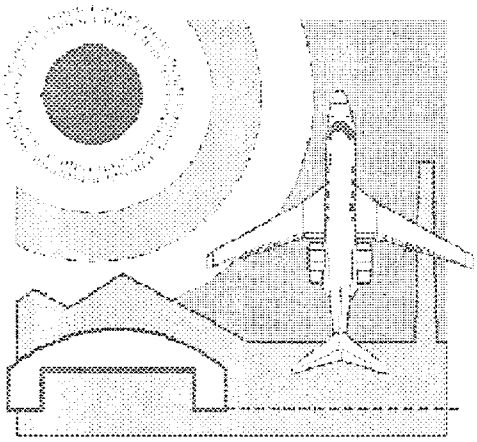

BISBEE-DOUGLAS INTERNATIONAL AIRPORT
Douglas / Cochise County, Arizona

AIRPORT MASTER PLAN - 1997

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